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NAVY ELECTRONICS LAB SAN DIEGO CALIF

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ASW SHIP COMMAND AND CONTROL SYSTEM: FREEPLAY/ASW EXERCISE TEST--ETC(U)

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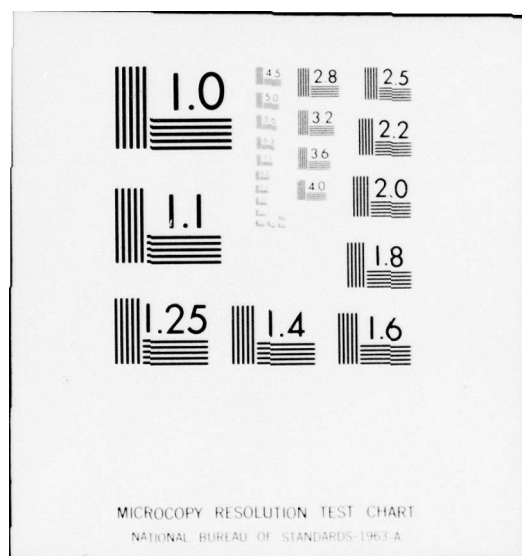
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ASW SHIP COMMAND AND CONTROL SYSTEM: FREEPLAY/ASW EXERCISE TEST PLAN (U)

20 April 1967

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FOREWORD

The information contained in this document SHOULD NOT BE RELEASED TO THE CONTRACTOR. It is not necessary, nor advisable that the organization preparing the operational programs know what will be tested, how it will be tested and what will not be tested. This will assure that portions of the system have not been reinforced/given special attention in order to meet test criteria.

This document has been prepared primarily for internal distribution to aid those at the U.S. Navy Electronics Laboratory who are working on the ASW Ship Command and Control System. Only limited distribution outside of the laboratory is contemplated.

Distribution of this document by the Project Office may be interpreted as endorsement of its contents. The work was performed by members of NEL Code 3320, Operations and Systems Analysis Division under NEL Problem J70972 and in support of NEL Problem J70973 Test and Evaluation (PERT Activity 02220 - 02947).

This test plan is tailored to the operational and functional specifications as they existed when this memorandum was written. Revisions of these specifications may require some changes in the test plan.

Approved

R. K. Harriott

LCDR R. K. Harriott USN
Project Officer

Approved

J. Paul Ward
Mr. J. Paul Ward
Project Engineer

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SPECIAL NOTICE

The Prohibited Section of this Technical Memorandum should not be shown to officers and men who will be operating as a part of the "Ship's Crew" in the ASWSC&CS Freeplay/ASW Exercise Test. The Section contains the details which are available only to the test personnel and others involved in setting up the tactical situations and controlling the forces not being tested. Obviously, the crew of the ship being tested should not be able to anticipate the tactics, maneuvers, threats or decisions of the opposing force. However, all persons should be aware and familiar with Sections I Introduction, II The Freeplay/ASW Exercise Narrative, and III Weapons Delivery.

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SECTION I
INTRODUCTION

1.1 OBJECTIVE. The Freeplay/ASW Exercise Test Plan has been developed for the purpose of exercising the total operational computer program in representative tactical situations. More precisely, the objectives of the Freeplay/ASW Exercise Test are as follows: ^{was}

- (a) Confirm that the Operational Programs function during a typical ASW Exercise.
- (b) Provide situations to permit users to form professional judgments as to acceptability of program features.
- (c) Provide potential situations for Executive Timing Test. (There is no intent to extract other quantitative data during the execution of this exercise.)

1.2 GENERAL. The Test Plan is based upon an actual operational readiness evaluation conducted in the recent past. This action is deliberate in order to give validity and substance to the test. Names of ships, etc., have been changed to minimize the chances of identifying the exercise and its results. The narrative is generally comprehensive and logically consistent. However, in the detailed tactical segments, some liberties have been taken in the placement of ships in the interest of ASDEC efficiency. Further, this test plan lends itself to skipping periods of time in order to minimize dead-time and maximize action.

1.3 QUALITATIVE TESTING. There is a variety of status, action and information signals which are exchanged between equipments and ships for the ASWSC&CS control and coordination tasks.

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No attempt to individually test these signals is made, it being assumed that this has been accomplished during previously conducted tests.

1.4 TEST ENVIRONMENT. The normal input and output modes in the ASWSC&CS equipment will be used. Air, surface, and sub-surface units; ordnance, sonar, radar and fire control equipment is simulated. The simulation computer will be the source of the external signals generated.

1.5 OPERATIONAL SHIP. The Operational Ship is indicated in the tables. In some situations, either the CVS or DEs can be the Operational Ship and this is indicated in the table headings. In other situations only the CVS or DE can be the Operational Ship and this is also indicated in the tables.

1.6 OPERATOR REQUIREMENTS. -

1.6.1 CVS OPERATIONAL SHIP. When the CVS is the Operational Ship, personnel required to operate the system are a Test Director, Simulation Deputy, Facilities Engineer, 4 TG&C Operators, 7 ASWSC&CS Operators, Helmstand Operator, CIC Officer, Watch Table Recorder and 2 Status Board Recorders.

1.6.2 DE OPERATIONAL SHIP. Personnel requirements are the same except only 5 ASWSC&CS Operators are required.

SECTION II

FREEPLAY/ASW EXERCISE NARRATIVE

2.1 GENERAL. -

2.1.1 PHASES. The Freeplay/ASW Exercise Test Plan is divided into three phases. Phase I consists of three parts which may be conducted simultaneously. Each part requires up to 12 hours to execute if performed in its entirety in real time and without skips. Part I of Phase I is an ASW Ship Barrier exercise. Part II is a Patrol Aircraft ASW Barrier exercise. Part III is a Surface and Air Intercept exercise. Phase II is a combined Cold War/Hot War exercise which would require four days to conduct in real time. Phase III is a Weapons Delivery exercise which would require one day to execute in real time. By dropping out selected time segments, the above execute times have been reduced to realistic intervals of testing which can be completed in 40 hours.

2.1.2 TERMS OF REFERENCE. For exercise purposes, the term BLUE forces refers to the ASW Task Group and any units designated as friendly to BLUE forces. The term PURPLE forces refers to the submarines, surface units, and surveillance aircraft opposing BLUE forces.

2.1.3 MANEUVERING. All bearings are in degrees true and relative bearings have not been used. All courses are true courses and relative or magnetic courses or turns are not used. Ranges are in nautical miles (NM) except sonar ranges are in yards. All speeds are in knots.

2.1.4 TRACKS. Navigation tracks for BLUE forces are listed in tables and figures throughout the exercise plan. BLUE tracks

must be followed to permit PURPLE forces to force contact. However, once a possible contact is held by BLUE force(s), BLUE units should deviate from the planned navigation track, as would be done at sea, in order to evade, hold down, attack or thwart aggressive PURPLE action. When contact is lost for a reasonable length of time (15-30 minutes), BLUE units should change course and speed to intercept and resume planned navigation track.

2.2 SUBMARINE WEAPONS. Each submarine has the capability of firing 8 MK-16 MOD 7, and 8 MK-28 MOD 3 torpedoes. The MK 16 torpedoes have a speed of 46.2 knots and a range of 14,000 yards. The MK 28 torpedoes have a speed of 20 knots, a range of 4,000 yards, and have passive acoustic-homing guidance.

Additionally, STOPPER has the capability of firing six air-breathing missiles with a speed of 800 knots, a range of 12-300 miles, altitude 1000-2000 feet. The missiles are designed for use against land targets or ships and may be fired in salvos of one or two. Target bearing and range must be determined prior to firing. This is normally done by two submarines taking bearings on electronic emissions.

Missile firings from submarines require the submarine to be on the surface for three minutes before firing the initial salvo, and remain on the surface for two minutes before firing each subsequent salvo.

2.3 COMMUNICATIONS. -

2.3.1 DATA LINK SHIPS. BLUE units equipped with digital communications link are the ASWC&CS equipped ships USS WASP (CVS-18), USS VOGEL (DE-1047), USS KOELSCH (DE-1049), the NTDS equipped USS

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JOHNSON (DLG-4) and VP-96 P3 ANEW aircraft. The CICs of these units communicate automatically with each other via Link 11. Link 14 equipment aboard these units converts appropriate Link 11 data and transmits information to other BLUE ships.

2.3.2 NON-DATA LINK SHIPS. Non-C&CS BLUE ships receive digital data from C&CS via Link 14, and communicate by conventional communication networks. Specific network assignments include:

<u>NET</u>	<u>CHANNEL</u>
Barrier Reporting Net	2
Surface Reporting Net	3
Aircraft Reporting Net	4
Submarine Reporting Net	5

2.4 FORCES. The ASW forces participating (actual or simulated) in this test plan are listed below. (Fictitious names and numbers have been deliberately used in many cases):

2.4.1 BLUE FORCE. -

UNIT	SONAR	RADAR
USS WASP (CVS-18) *	SQS-23A	SPS-10
(COMASWBLUE embarked)		SPS-37A
		SPS-30
		SPN-6
CVSG-99+		
VS-91 (12 S2E) +		APS-88
VS-92 (12 S2E) +		APS-88

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HS-91 (16 SH3A)+	AQS-10	
VAW-91 (4 E1B)+		APS-20
VA-91 (4 A4)+		
COMDESRON - 99+		
USS VOGEL (DE-1047)*	SQS-26	SPS-10
		SPS-40
USS SMITH (DD-2)+	SQS-23	SPS-10
		SPS-40
USS JONES (DD-3)+	SQS-29	SPS-10
		SPS-40
USS JOHNSON (DLG-4)+	SQS-23	SPS-10
		SPS-48
COMCORTRON-9+		
USS KOELSCH (DE-1049)*	SQS-26	SPS-10
		SPS-40
USS TOM (DE-(1007)+	SQS-26	SPS-10
		SPS-40
USS DICK (DD-13)+	SQS-23	SPS-10
	SQA-10 (VDS)	SPS-40
USS HARRY (DD-14)+	SQS-23	SPS-10
		SPS-40
COMSUBDIV-9		
USS PLUG (SSN-1)+	BQQ-2	SS-2
COMFAIRWING-99 (COMFAIRWING BLUE)+		

*Some liberties have been taken in the placement of ships in the various incidents to assure that ASWSC&CS is involved in the various episodes included in the total operations.
+Fictitious names and numbers.

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VP-96 (9-P3 ANEW)	APS-80
VP-92 (9-P3)	APS-80
VAH-91 Det C (3-A3)	APS-80

2.4.2 PURPLE FORCE. -

COMSUBDIV-10+

USS CORK (SSBN-11)+	BQQ-2	BPS-9
		WLR-1
USS STOPPER (SS-12)+	BQQ-2	BPS-9
		WLR-1

COMFAIRWING 10+

VAH-10 Det A (4-A3)+	APS-80
VP-11 Det A (4-P3)+	APS-80

COMTRAWLDIV-9+

USS SWIFT (TL-11)+
USS SPEED (PT-12)+

2.5 GENERAL SITUATION. A state of cold war exists between BLUE and PURPLE. BLUE and PURPLE have become increasingly distrustful of each other's actions. PURPLE submarines with missile launching capability have been noted with increasing frequency on out of area operations at long distances from PURPLE homeland. PURPLE submarines and fishing trawlers have been conducting open ocean surveillance of BLUE shipping lanes, and observing BLUE fleet exercises to collect intelligence on ship/equipment performance and modes of operation. BLUE JCS has directed that action be taken to thwart PURPLE intelligence collection efforts, to provide increased measures of protection to shipping in selected areas, to increase ASW surveillance of suspected PURPLE submarine transit lanes and

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operating areas, and to conduct training simulating PURPLE forces.

2.6 PHASE I PART I - NARROW PASSAGE. -

2.6.1 PURPLE NARROW PASSAGE AREA. The approaches to a suspected PURPLE submarine patrol zone funnel through a narrow, deep water passage bounded as follows:

- a) On the east by a line running from Point A 21-14N, 158-10W to Point B 21N, 158-10W
- b) On the south by a line starting at 21N, 158-10W, running to Point C 21N, 158-22W, thence to Point D, 20-33N, 159-35W.
- c) On the west by a line starting at 20-33N, 159-35W, running to Point E 21-26N, 159-35W.
- d) On the north by a line starting at 21-26N, 159-35W running to Point F 21-26N 159W, thence to Point G 21-14N, 158-27W thence to 21-14N, 158-10W
- e) The above area is depicted in Figure 1. and Table 1.

2.6.2 COMASWBLUE MISSION. To obtain information on the frequency of attempted submerged transits of this area by PURPLE submarines, and to obtain information on mode of operations, CINCBUE has assigned COMASWBLUE the following missions:

- a) Establish and maintain a one ship ASW barrier between 21-20N 158-50W, and 20-48N 158-50W from 130900 to 141100. This barrier is to be patrolled by one VDS-equipped destroyer.
- b) Establish and maintain a two ship ASW barrier between 20-36N 159-20W and 21-26N 159-20W from 131000 to

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141200. This barrier is to be patrolled by two destroyers, an ASWSC&CS destroyer and a non-ASWSC&CS destroyer.

- c) Coordinate with COMFAIRWING BLUE to prevent mutual interference.

2.6.3 COMASWBLUE PLAN. The COMASWBLUE Plan for Phase I, Part I is to establish and maintain a one destroyer barrier at 158-50W between 21-20N and 20-48N from 130900 to 141100. DICK is assigned to this barrier and will use VDS. A second barrier is to be established and maintained at 159-20W between 20-36N and 21-26N from 131000 to 141200. This barrier is divided at 21N with KOELSCH assigned to the northern section and TOM to the southern section. The ASW Barrier ships are to remain within five miles of the barrier lines. Phase I Part I is depicted in Figure 2. The navigation track for this phase of the exercise is listed in Table 2, subject to change by COMASWBLUE (OTC) in event of a contact.

2.6.4 ENVIRONMENT.-

Cloud Cover	SCTD Clouds at 2500 ft.
Visibility	Unrestricted
Wind	Easterly 10-20 knots
Seas	Easterly 3-5 ft.
Sea Surface Temp.	76° - 80° F.
Layer Depth	260-320 ft.
Thermocline Gradient	2° - 5° F/100 ft (neg)

2.7 PHASE I PART II- BROAD PASSAGE. -

2.7.1 PURPLE BROAD PASSAGE AREA. PURPLE submarine enroute to

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and from nearby patrol zones are known to be transiting in an east to west direction a broad area passage of deep water bounded by Point A 20-30N 159W, to Point B 18-30N 159W, to Point C 18-30N 161W, to Point D 20-30N 161W, to Point A as depicted in Figure 3.

2.7.2 COMFAIRWINGBLUE MISSION. Because of other high priority tasks assigned to COMASWBLUE, the following mission is assigned to COMFAIRWING BLUE:

- a) Establish and maintain a one-plane VP-ANEW barrier oriented on a north-south axis, in an area bounded by 18-30N and 20-30N between 159W and 161W (Points A, B, C and D) from 130900 to 141200 per Figure 3.
- b) Coordinate with COMASWBLUE to prevent mutual interference.

2.7.3 COMFAIRWINGBLUE PLAN. The COMFAIRWINGBLUE plan for Part II consists of an eight-sonobuoy barrier with a spacing of approximately 35 miles as shown in Figure 3 and Table 3. Eight hour SSQ-48 sonobuoys are used for the barrier and SSQ-28 buoys for CODAR. One VP ANEW aircraft is to be on station continuously as shown in Figure 3 and Table 4. The VP aircraft can only receive the sonobuoy emissions when within six miles of a sonobuoy.

Aircraft are to attempt to detect, classify, localize and track all PURPLE submarines in their area and maintain a surface plot. COMASWBLUE aboard WASP is OTC for the VP area for the purpose of demonstrating the capability of the ASWSC&COS to be an aid to command in this type of operation.

2.7.4 ENVIRONMENT. Environment conditions in the barrier are

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the same as in paragraph 2.6.4.

2.8 PHASE I PART III - TRAINING. -

2.8.1 COMASWBLUE TRAINING. Anticipating a serious trend toward hostilities CINCBBLUE has directed an increase in overall readiness of ASW forces assigned. In support of this directive, CINCBBLUE has assigned COMASWBLUE the following training mission:

- a) Conduct aircraft intercepts against BLUE aircraft.
- b) Conduct surface intercepts against own helicopters simulating PT/TRAWLER targets.

2.8.2 COMASWBLUE PLAN. To fulfill the training mission COMASWBLUE plan is as follows:

- a) The threat axis for air and surface units is to be 045T.
- b) VOGUE will be stationed on the threat axis at a range of 90 miles to act as a WATCHDOG.
- c) Two A4 Aircraft will be kept in Aircraft Readiness Condition ONE from dawn to dusk and will be launched whenever "bogeys" endanger the force.
- d) An ElB aircraft will be kept airborne to transmit BELLHOP picture to the CVS, and to report air and surface contacts. The ElB will be stationed at a range of 30 miles on the threat axis and at best altitude to detect low flyers.
- e) Surface ships will keep their gun batteries manned and shall bring their guns to bear and lock-on skunks and bogeys approaching the force.

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- f) The plan to simulate enemy aircraft and PT/TRAWLERS is contained in Section IV Prohibited Section.
- g) The formation for the ASW Group shall be FORM 40. Navigation track, and ships and aircraft assigned are depicted in Figure 5 and listed in Table 5.

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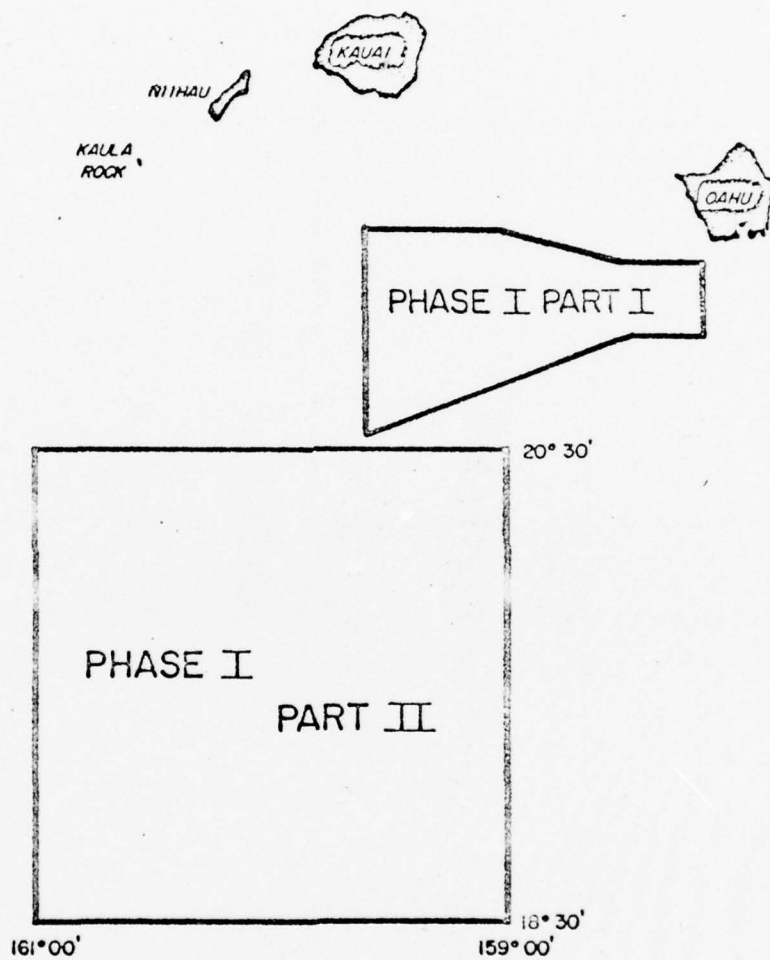
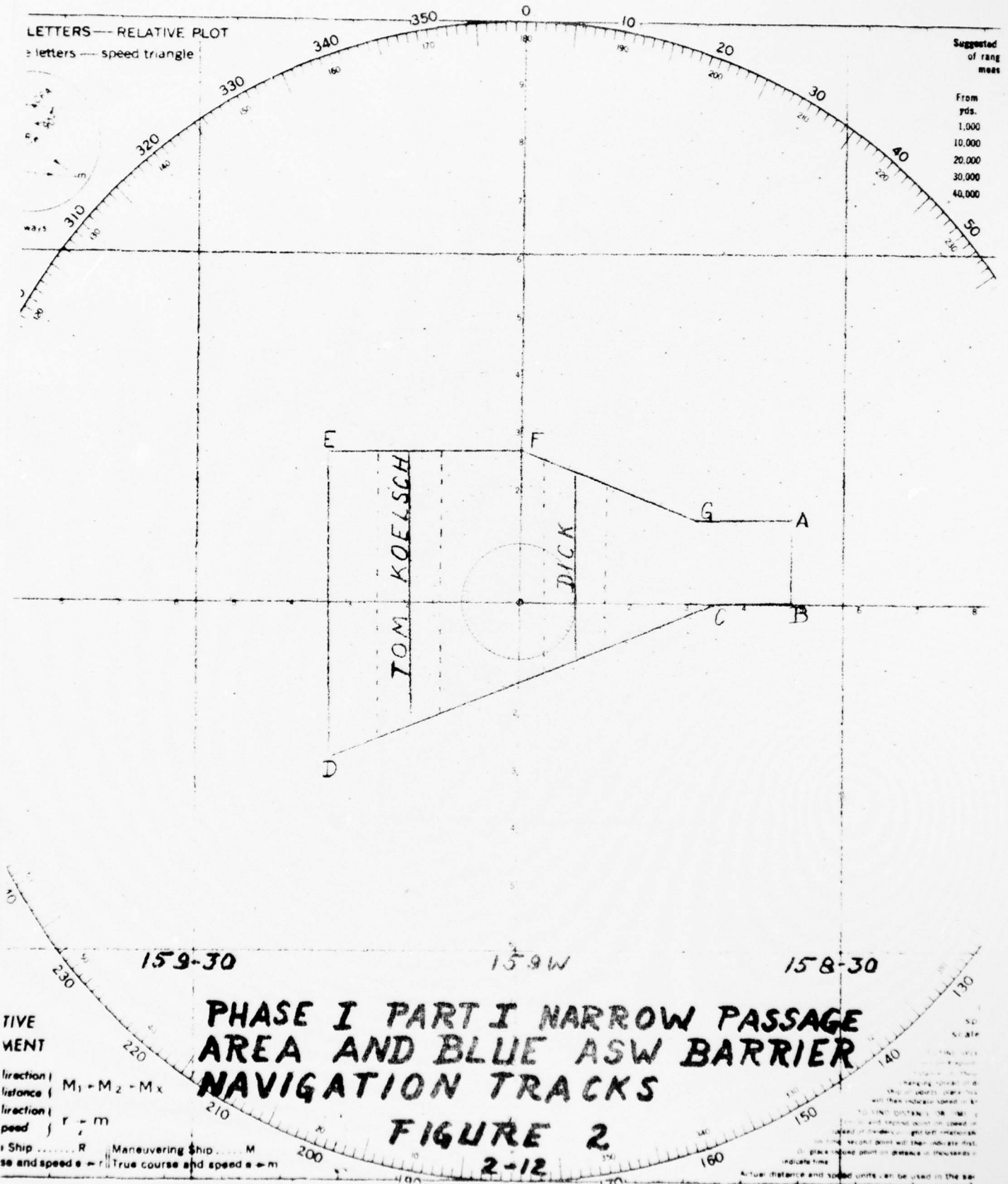


FIG. I

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MANEUVERING BOARD



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SAN DIEGO 52, CALIFORNIA

TITLE

PHASE I PART I NARROW PASSAGE AREA

DATE _____

130900 - 141200

Ref. PT. 21N 159W (BRNG 067° 154 NM FROM DLRP 20N 161-30W)

DE OpShip

TABLE 1

[illegible]

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TITLE

DD/DE ASW BARRIER NAVIGATION TRACK

DATE _____

Ref Pt. 21N 159W (Brng 067° 154NM from DLRP 20N 161-30W)

Table 2

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PHASE I PART II - BLUE VP AIR PLAN

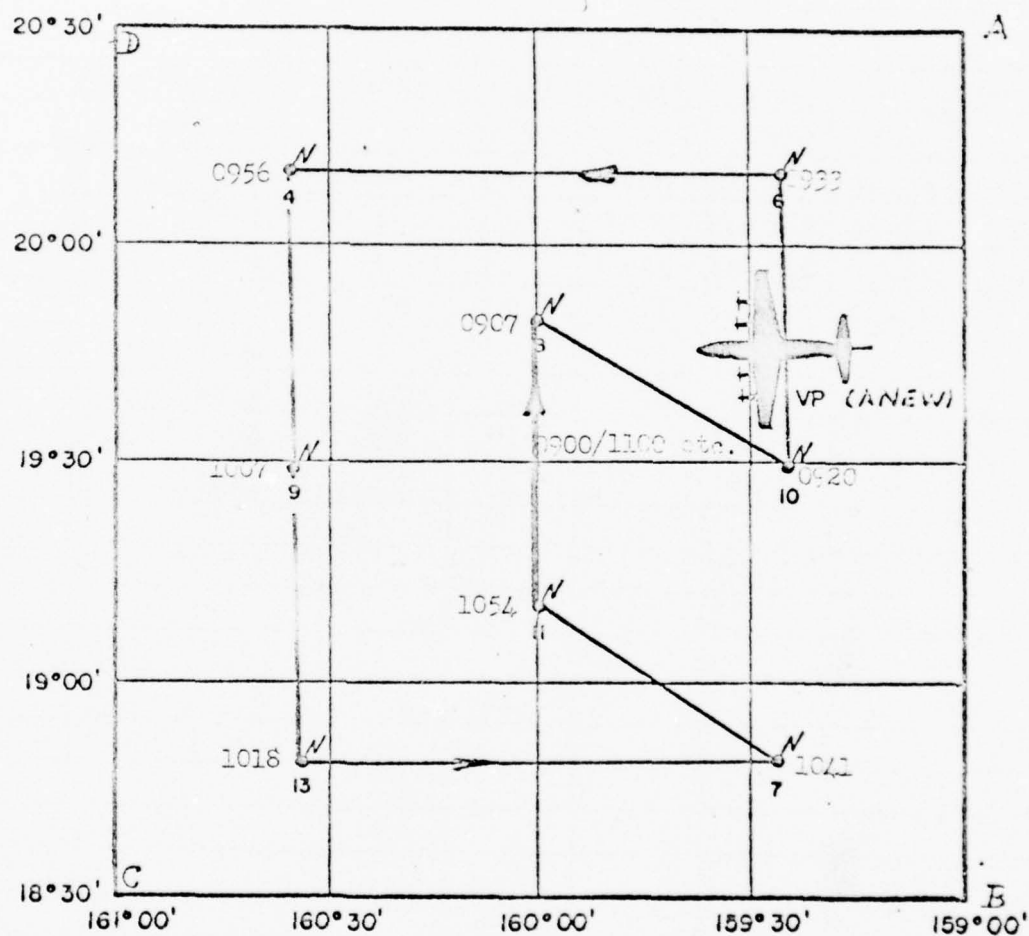


FIGURE 3

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TITLE
PHASE I PART II BROAD PASSAGE AREA AND SONOBUOY PATTERN

130900 - 141200

REF. PT. 19-30N 160W (BRNG 110° 90 NM FROM DLRP 20N 161-30W)

CVS/DE OpShip

TABLE 3

[illegible]

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SAN DIEGO, CALIFORNIA 92152

PHASE I PART II VP ANEW AIRCRAFT SONOBUOY MONITORING

130900 - 141200

Ref Pt. 19-30N 160W (Brng 110° 90NM from DLRP 20N 161-30W)

ALTITUDE 1500'

Table 4 CVS-DE Op Ship

[illegible]

* 0900	Track will be repeated every two hours unless otherwise				
	directed by COMASWBLUE or COMFAIRWING BLUE				

Observers

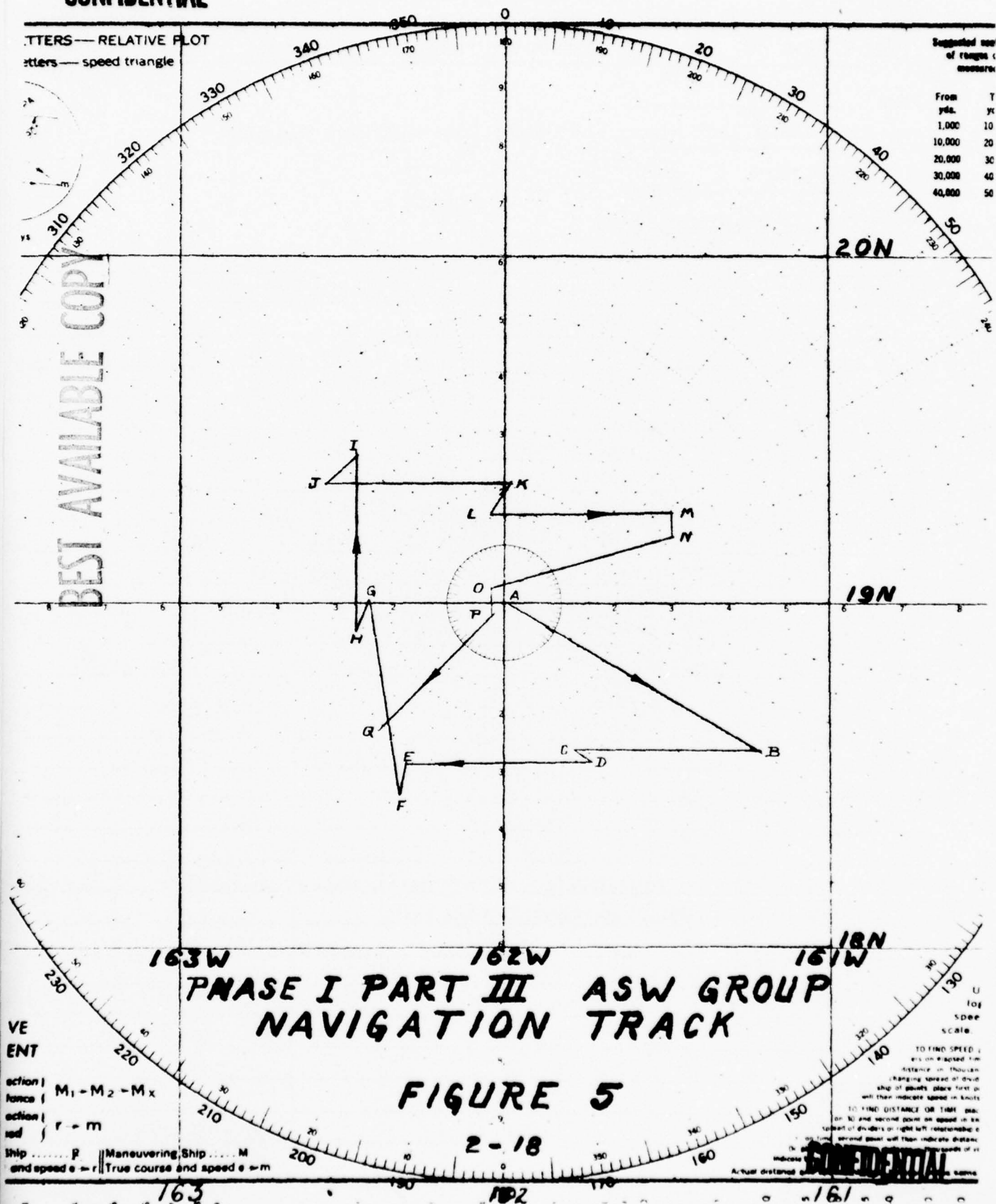
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U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO, CALIFORNIA 92152

TITLE

PHASE I PART III ASW GROUP NAVIGATION TRACK

DATE

130900 - 141200

REF PT. 19N 162W (Brng 205° 67 NM FROM DLRP 20N 161-30W)

FORMATION AXIS 000°T. THREAT AXIS 030°T.

TABLE 5 CVS/DE Op Ship

POINT	TIME	UNIT	STA (°T)	BRNG FM REF PT	RMGE FM REF PT	CUS	SPD	DIST	REMARKS
	130900	WASP	0	000°	00				GUIDE
		JONES	3000						
		JOHNSON	3270						
		SMITH	3090						
		HARRY	3180						
		VOGE	*						WATCHDOG
		E1B	**						BELLHOP
A	130900	WASP	0	000°	00	120	16	52	
B	1215	WASP	0	120	52	270	12	33	
C	1500	WASP	0	155	28	120	16	4	
D	1515	WASP	0	150	32	270	12	33	
E	1800	WASP	0	212	33	190	20	5	
F	1810	WASP	0	209	38	350	12	34	
G	2100	WASP	0	272	24	200	20	7	
H	2121	WASP	0	258	37	000	12	32	
I	140000	WASP	0	313	37	215	20	7	
J	0021	WASP	0	304	38	090	12	32	
K	0300	WASP	0	003	21	215	20	7	
L	0321	WASP	0	349	16	090	12	32	
M	0600	WASP	0	062	33	180	16	4	
N	0615	WASP	0	069	31	255	12	33	
O	0900	WASP	0	312	3	180	15	5	
P	0920	WASP	0	225	4	225	12	32	
Q	1200	WASP	0	225	32	180	15	--	FINEX
*WATCH DOG STATION 030T-90NM FROM WASP									
**BELL HOP STATION 030T-30NM FROM WASP									

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2.9 PHASE II - COLD/HOT WAR. -

2.9.1 GENERAL. The AA capability of ASW forces is expected to be a vast problem with considerable effect on ASW. It is worthy of note that in a Hot War situation, WASP has only four marginal day interceptors (4-A4) and no effective night or AA defense without DDs/DLG. Snooper surveillance flights are conducted by PURPLE aircraft during this phase. Advance warning of a pending surveillance aircraft should be passed by voice circuits, Link 11 and/or Link 14 to the rest of the forces by the ElB, SAU, or picket destroyers.

2.9.2 BLUE PLAN. The BLUE Plan for Phase II divides the operating area into letter designated sectors to permit assignment of surface and air units with a minimum of explanation. Areas and letter designations are as shown in Figure 6. Initially surface forces are to be positioned in the northern half endeavoring to eliminate surface ship interference with VP JEZEBEL plants in the southern area. The main body of the surface force is to be centrally located in order to conduct ASW patrol in the eastern sectors, and is designated SAU ALPHA. Another SAU is to operate in the western sectors, and is designated SAU BRAVO.

2.9.3 BLUE SURFACE OPERATIONS. -

- a) To meet refueling commitments, the disposition of BLUE forces at the commencement of Phase II is not optimum. The main body is located in area XE conducting underway replenishment and is screened by VOGEL, HARRY, JOHNSON and SMITH in a four ship circular formation, and four helicopters in an outer circular

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formation. JONES and DICK are assigned as SAU ALPHA to patrol to the northeast and KOELSCH and TOM are assigned as SAU BRAVO and are proceeding to area YW. Figure 7 depicts the disposition of BLUE surface forces and the track to be followed. Tables 6 and 6A list the navigation track and screening formation for the ASW Group, Table 7 for SAU ALPHA, Table 8 for SAU BRAVO, and Table 9 for Sonobuoy Locations.

- b) EMCON ship to shore circuits are shut down. Air search radars are operating on all ships as protection against snoopers aircraft. Sonars are active and IFF/SIF transponders are operating. HF receivers, VHF and UHF transceivers, and Link 11 and Link 14 are operating to convey data and control messages.

2.9.4 BLUE AIR OPERATIONS. -

- a) The air plan calls for VS aircraft to monitor buoys as shown in Figure 8 in areas X-RAY and YANKEE. Buoys LIMA and KILO are to be used only when two areas are combined for a large area search. Five S-2Es are to be airborne continuously with one each to search areas XE, XW, YE and YW, and one aircraft as scrapper for the ElB. An ElB is to be airborne continuously to detect low flyers and surface contacts. Four SH-3A's are to be airborne continuously to supplement the screen or act as SAUs as the tactical situation demands.

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- b) The COMFAIRWINGBLUE Air Plan for Phase II provides for a one-aircraft VP barrier in areas WHISKEY and ZULU to monitor buoys as shown in Figure 8.
- c) Eight-hour SSQ-48 sonobuoys are utilized for the LOFAR phase of the barriers. VP aircraft are to detect, classify, localize, and track PURPLE submarines in their assigned area. Attacks are to be conducted upon receipt of formal declaration of war. A surface plot is to be maintained by the Operational Ship and all surface and subsurface contacts and amplifying reports are to be made to COMASWBLUE in WASP, information to the ASW Group.

2.9.5 PURPLE PLAN. -

- a) The PURPLE Plan provides for surveillance of transiting merchant vessels and BLUE ASW forces in the operating area. Submarines are to remain undetected. After declaration of war, submarines are authorized to commence torpedo and missile attacks against BLUE forces.
- b) Based on known intelligence of merchant shipping lanes, BLUE expects STOPPER, a conventional submarine, to utilize the northern half of the patrol zone assigned as this area encompasses several ocean shipping lanes. BLUE notes that STOPPER may try to take advantage of heavy biologics, shallow water effects, and possible fishing boats to the south of the island of NIIHAU to

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conduct noisy evaluations as snorkeling.

- c) BLUE expects CORK, a nuclear submarine, to operate generally in the center and northwest sector of the exercise area in an effort to control the ASW Group and track merchant shipping.
- d) Details of CORK and STOPPER operations are contained in Prohibited Section IV.
- e) Details of hostile surveillance air flights are contained in Prohibited Section IV.
- f) The environmental conditions during the Cold War part of Phase II are shown in Figure 9.

2.10 PHASE II - COLD WAR. -

2.10.1 COMEX. At 141600 WASP and her screening ships VOGEL, HARRY, JOHNSON and SMITH are refueling in the vicinity of 20-30N 159-30W course 120T speed 12. Refueling is completed at 1700 and the ASW Group proceeds as indicated in Tables 6, 6A, and Figure 7. SAU ALPHA, consisting of DICK and HARRY, is conducting operations in the vicinity of 21-15N 159-15W as indicated in Table 7 and Figure 7. SAU BRAVO, consisting of KOELSCH and TOM, are enroute to the northwest sector of the operating area in the vicinity of 21-10N 161-15W course 290T speed 12 as indicated in Table 8 and Figure 7.

2.10.2 PLUG TRANSIT. At 151709, the friendly submarine USS PLUG enters the area at 21-20N 159-30W course 260T speed 13 and transits on the surface as indicated in Figure 7 and Table 12. An S2E escorts PLUG through the operating area. PLUG completes her transit at 161046.

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2.10.3 MAIN BODY MANEUVERING. -

- a) At 150715 the OTC orders the Main Body to head northwest as he believes that STOPPER is located slightly to the southeast of the Main Body position. The center northwestern area, Area YE, is considered by the OTC as the area of least probability.
- b) At 160300, the OTC orders the Main Body of the ASW Task Group to the north and to stay clear of a submarine contact to the southwest reported by VP, and high probability area to the east in area XE.
- c) At 160600 the OTC orders SAU ALPHA, DICK and HARRY, and SAU BRAVO, KOELSCH and TOM, to depart their assigned search areas in time to rendezvous with WASP for UNREP at 161900 PIM 21-17N 162-05W course 125T speed 12. DICK and HARRY depart for rendezvous at 160800, and KOELSH and TOM depart at 161400. Rendezvous is effected at 161900.
- d) At 162000 CINCBUE orders war declared against PURPLE.

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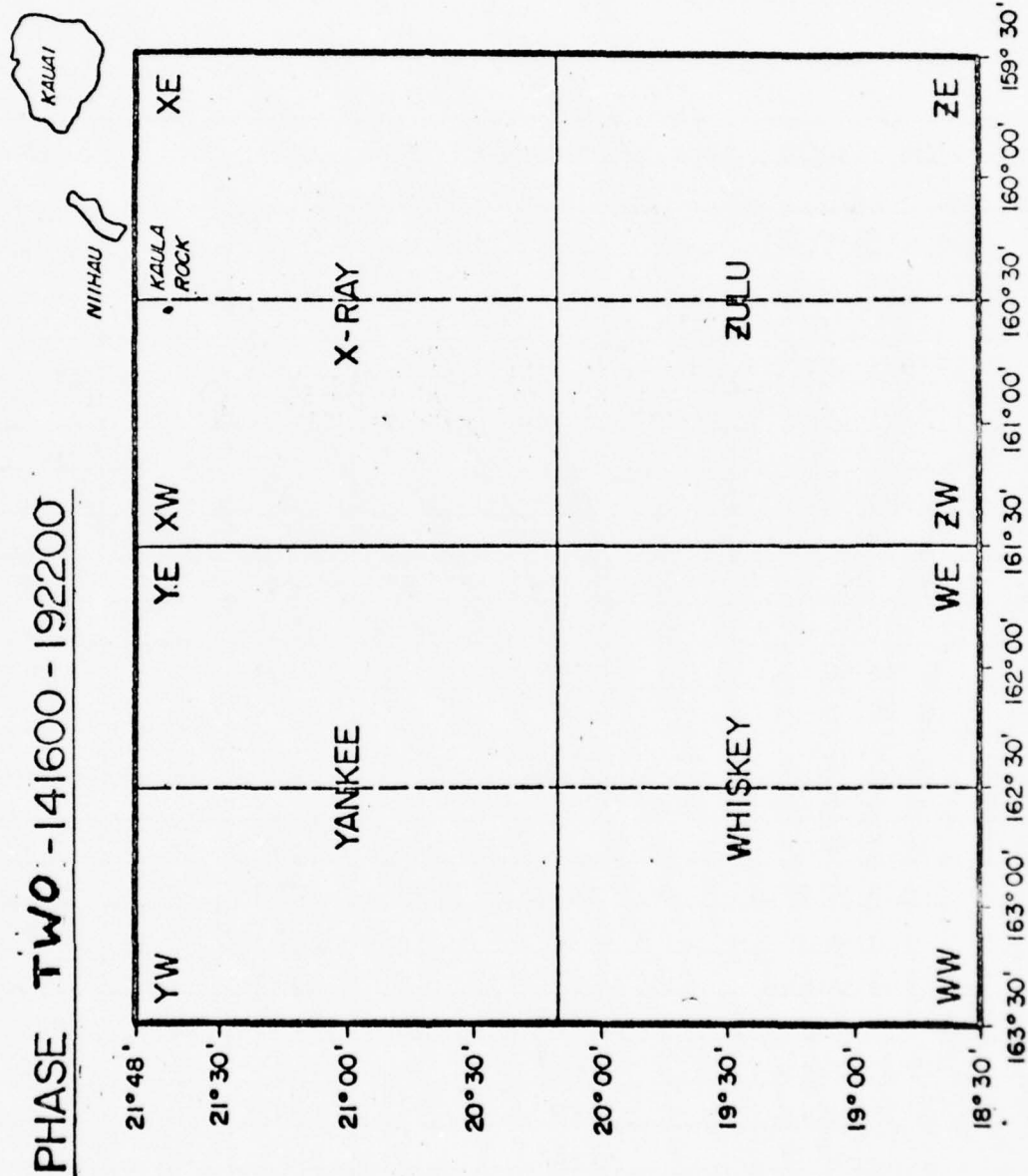


FIGURE 6

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TITLE

PHASE II COLD WAR ASW GROUP NAVIGATION TRACK

DATE

141600 - 162000

DLRP 20N 161-30W CVS/DE Op Ship

WASP ASW GROUP CENTER. FORMATION AND THREAT AXIS 000°

TABLE 6

POINT	TIME	UNIT	STATION (°T)	BRNG Fm REF PT	RNGE Fm REF PT	CUS	SPD	DIST	REMARKS
	141600	WASP	0						CTR
	141600	VOGE*	3000						
	141600	SMITH*	3270						
	141600	JONES*	3090						
	141600	JOHNSON*	3180						
A	141600	WASP	0	062°	64	120°	12	18	COMEX
B	1730	WASP	0	079°	82	270°	12	12	
C	1830	WASP	0	077°	71	300°	12	30	
D	2100	WASP	0	055°	53	020°	12	22	
E	2250	WASP	0	045°	72	270°	12	38	
F	150200	WASP	0	015°	53	070°	16	13	
G	0249	WASP	0	024°	61	280°	16	23	
H	0415	WASP	0	002°	60	145°	12	36	
I	0715	WASP	0	037°	38	307°	12	39	
J	1030	WASP	0	352°	54	170°	12	36	
K	1330	WASP	0	355°	17	250°	12	9	
L	1415	WASP	0	325°	18	345°	12	36	
M	1715	WASP	0	339°	53	123°	12	68	
N	2245	WASP	0	069°	39	265°	12	68	
O	160300	WASP	0	282°	31	030°	12	12	
P	0400	WASP	0	305°	30	000°	12	48	
Q	0800	WASP	0	339°	69	083°	12	54	

* Unless otherwise indicated or directed by OTC, DDs remain as
stationed throughout Phase II Cold War

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PHASE II COLD WAR ASW GROUP NAVIGATION TRACK

DATE _____

141600 - 162000

TABLE 6 (Cont)

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TITLE

DATE _____

NOTE: SEE TABLE 6 FOR ASW
GROUP NAVIGATION TRACK

WASP FORMATION CENTER

TABLE 6A

[illegible]

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PHASE II COLD WAR SAU "A" NAVIGATION TRACK

141600-162000

DLRP 20N 161-30W CVS Op Ship

DICK SAU "A" GUIDE

TABLE 7

[illegible]

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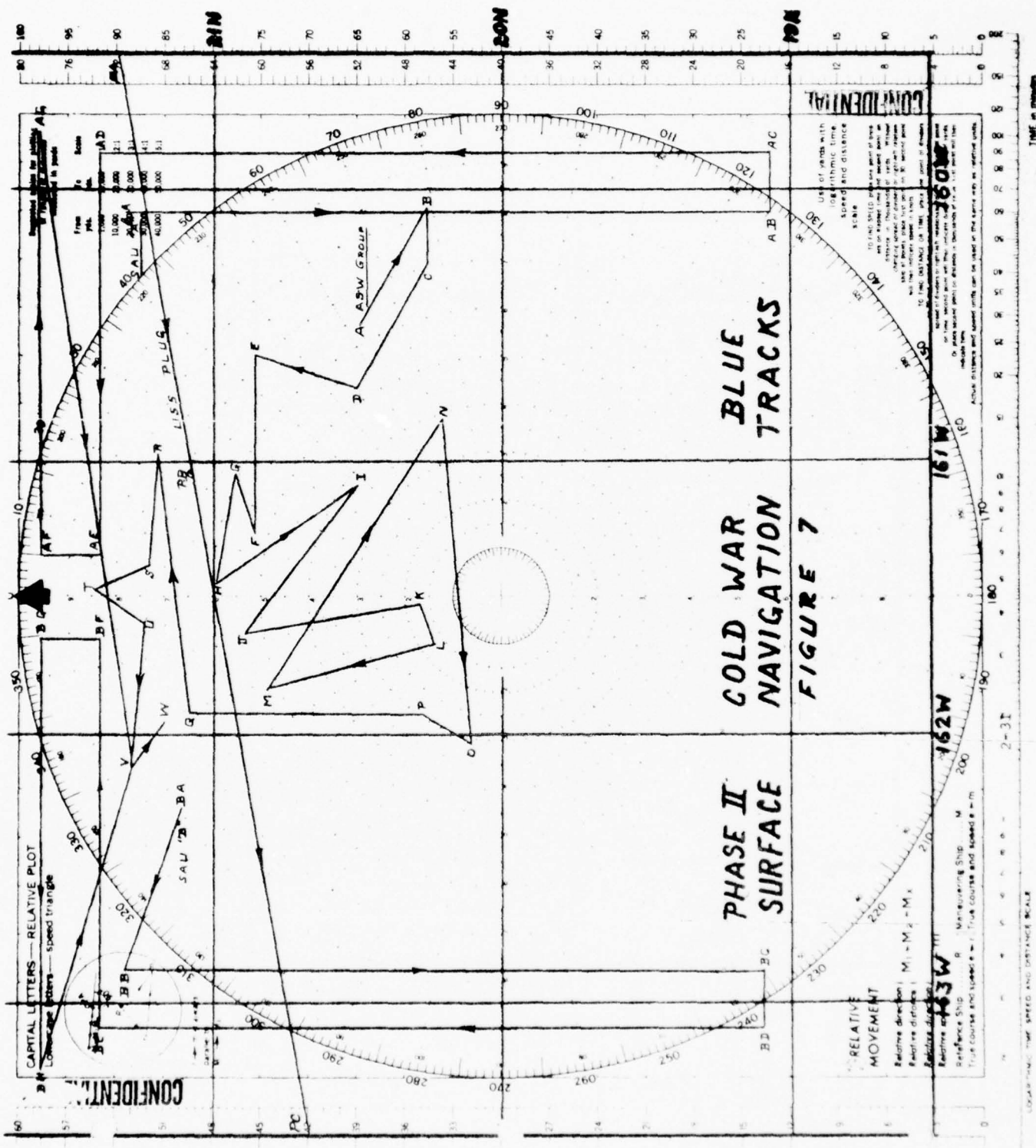
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PHASE II BLUE AIR PLAN

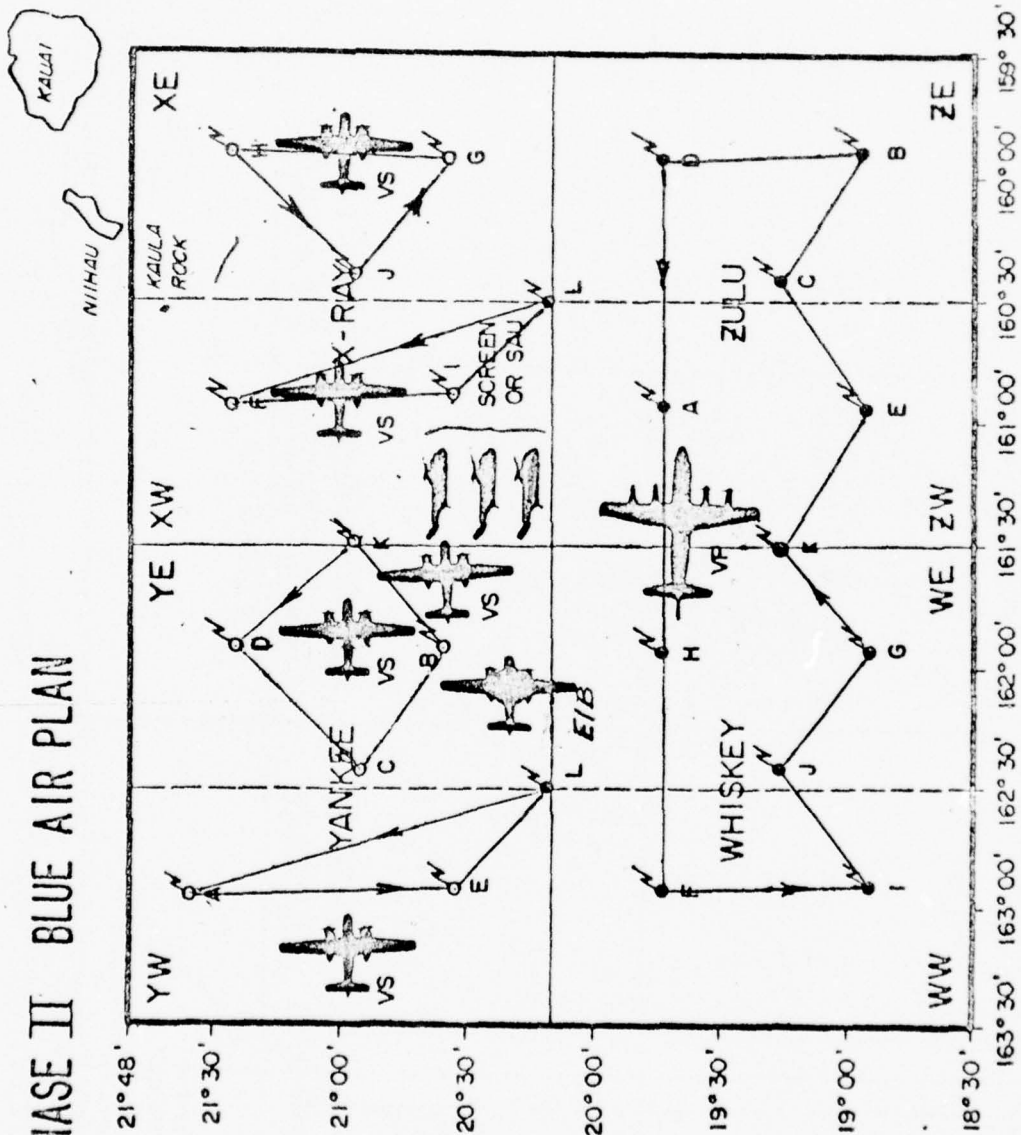


FIGURE 8

U. S. NAVY ELECTRONICS LABORATORY
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PHASE II SONOBUOY DESIGNATION AND LOCATION

CVS/DE Op Ship

REF PT 20N 161W (Brng 090° 28NM from DLRP 20N 161-30W)

TABLE 9

AREA	DESIG	LAT	LONG	B RNG FM	RNGE FM	CHANNEL
		(N)	(W)	REF PT	REF PT	DESIG
YANKEE	A	21-32	162-57	310°	142	16
"	B	20-32	161-53	301°	60	14
"	C	20-57	162-25	305°	100	12
"	D	21-24	161-56	328°	100	10
"	E	20-32	162-56	286°	113	8
	L	20-08	162-30	275°	85	3
ZULU	A	19-43	160-58	171°	17	16
"	B	18-53	159-52	136°	92	14
"	C	19-18	160-25	141°	54	12
"	D	19-43	159-43	102°	72	10
"	E	18-52	160-56	178°	67	8
	K	19-18	161-30	215°	51	6
XRAY	F	21-24	160-57	004°	85	13
"	G	20-32	159-53	064°	71	11
"	H	21-24	159-56	036°	103	9
"	I	20-32	160-57	006°	32	7
"	J	20-57	160-25	030°	65	5
"	K	20-57	161-30	334°	64	6
"	L	20-08	160-30	074°	28	3
WHISKEY	F	19-43	162-57	261°	111	13
"	G	18-53	161-52	216°	83	11
"	H	19-43	161-53	250°	52	9
"	I	18-52	162-56	238°	128	7
"	J	19-18	162-25	242°	89	5

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Observers

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TITLE

PHASE II S2E AIRCRAFT SONOBUOY MONITORING

DATE

141600-191715 CVS/DE Op Ship

REF PT 20N 161W (Brng 090° 28NM from DLRP 20N 161-30W)

ALTITUDE 1500'

TABLE 10

DEPART	CALL	BUOY	COURSE	SPEED	DIST	MIN	ARRIVE	BUOY	REMARKS
	& SECTOR	DESIG						DESIG	
141600*	XE	G	355°	132	52	24	1624	H	
1624	XE	H	225°	132	40	18	1642	J	
1642	XE	J	128°	132	40	18	1700	G	
1700*	XE	G	355°	ETC.					*
141600**	XW	L	345°	112	80	43	1643	F	
1643	XW	F	185°	112	53	28	1711	I	
1711	XW	I	135°	112	35	19	1730	L	
1730**	XW	L	345	ETC.					**
141600*	YE	B	042°	150	34	14	1614	K	
1614	YE	K	319°	150	37	15	1629	D	
1629	YE	D	228°	150	40	16	1645	C	
1645	YE	C	129°	150	39	15	1700	B	
1700*	YE	B	042°	ETC.				K	*
141600**	YW	L	344°	120	86	43	1643	A	
1643	YW	A	180°	120	61	31	1714	E	
1714	YW	E	134°	120	33	16	1730	C	
1730**	YW	L	344°	ETC.					**
*REPEAT 1600-1700 TRACK EVERY HOUR									
**REPEAT 1600-1730 TRACK EVERY 1 1/2 HOURS AT 0100, 0230, 0400, 0530,									
0700, 0830, 1000, 1130, 1300, 1430, 1600, 1730, 1900, 2030, 2200, 2330.									
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PHASE II VP AIRCRAFT SONOBUOY MONITORING

141600-191715

~~CVS/DE~~ Op Ship

REF PT 20N 161W (Brng 090° 28NM from DLRP 20N 161-30W)

ALTITUDE 1500'

TABLE 11

[illegible]

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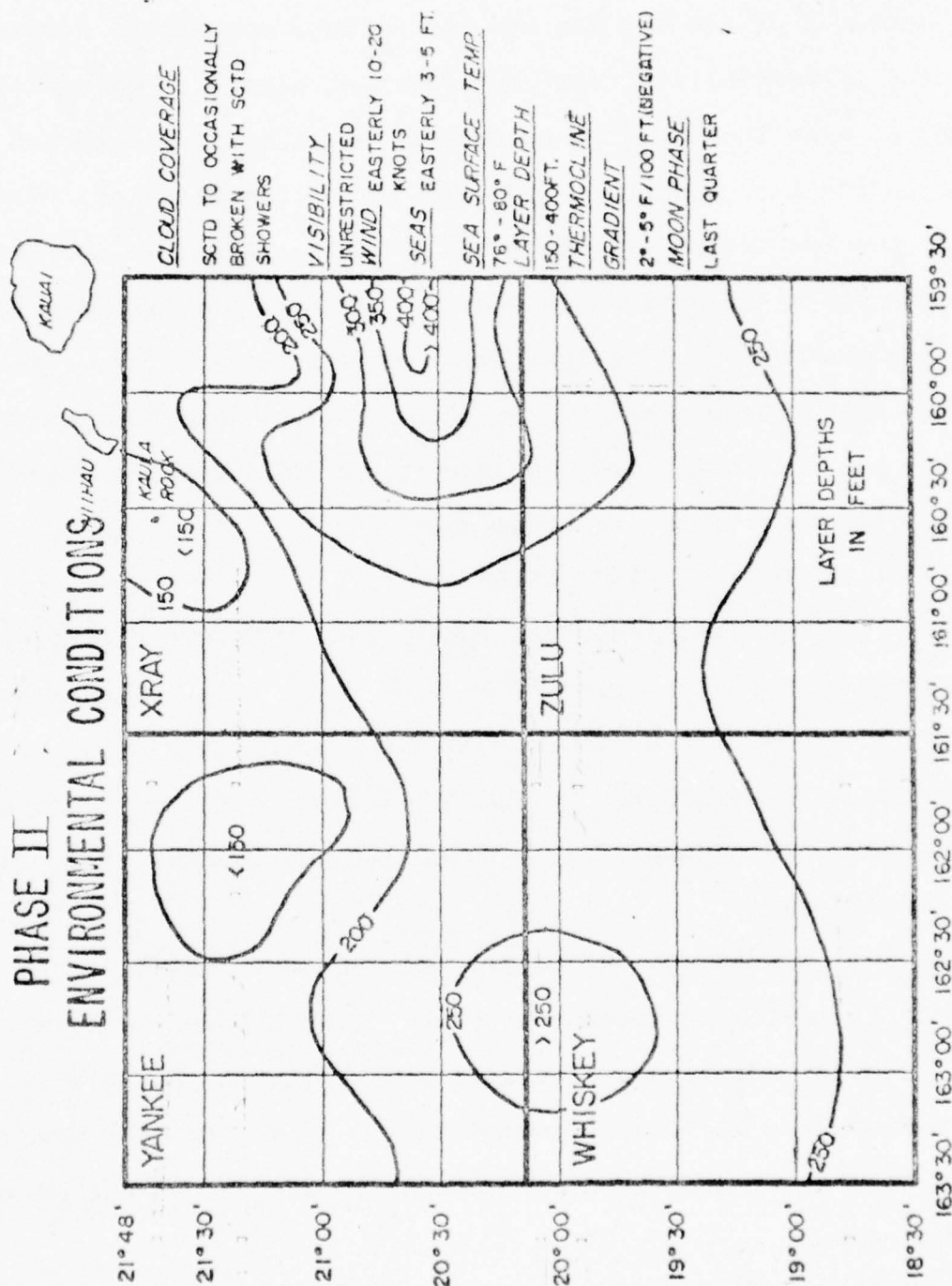


FIGURE 9

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2.11 PHASE II HOT WAR. -

2.11.1 COMEX. Figure 10 depicts the disposition of forces at commencement of the Hot War and the surface operations during the period 162000-191715. WASP is operating close to the eastern boundary of area YANKEE. The operating forces are deployed and operate in the same manner as they did during the Cold War. Table 13 lists the ASW Group Navigation Track, Table 14 and 15 the SAU ALPHA and SAU BRAVO Navigation Tracks. Table 16 lists the formations and maneuvers for replenishment from a fleet oiler. The Air Plan, Helicopter Screen and Dip schedule, and Sonobuoy designations, locations and monitoring are the same as for Cold War operations. Environmental conditions are unchanged.

2.11.2 UNREP FROM FLEET OILER. -

2.11.2.1 POCOHANTAS ESCORTS. At 171740 BLUE OTC directs SAU ALPHA (DICK and HARRY) to rendezvous with fleet oiler POCOHANTAS at 172125 20N 159-30W and escort POCOHANTAS to the ASW Group; directs the ASW Group, SAU BRAVO and POCOHANTAS with escorts to rendezvous at 180400 21N 160-25W course 135T speed 12. Navigation track is listed in Table 14.

2.11.2.2 RENDEZVOUS AND UNREP. At 180400 POCOHANTAS, SAU BRAVO and the ASW Group rendezvous with POCOHANTAS as the Formation Center. The formations and maneuvers are as listed in Table 16. UNREP commences at 0410 and is completed at 0645. At 0645 the OTC detaches POCOHANTAS and directs SAU ALPHA to escort her out of the operating area.

2.12 EXECUTIVE TIMING SAMPLING. -

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2.12.1 GENERAL. The test will be controlled from the Data Extraction Console of the Test Generation and Control System. Each sampling will consist of 3 minutes of operation, on same start time, e.g. 01 and 31, etc. During the test the tracking operators should sequence and update targets with maximum rapidity. (Details of Executive Timing Test are contained in TM 1029.)

2.12.2 TIME SCHEDULE. -

170200 to 170900

180400 to 180700

191200 to 191400

210900 to 211100

2.13 FINEX. FINEX is signaled by OTC at 191715.

TITLE

PHASE II HOT WAR ASW GROUP NAVIGATION TRACK

DATE

162000-191715 CVS/DE Op Ship

DLRP 20N 161-30W

WASP ASW GROUP CENTER. FORMATION AND THREAT AXIS 000°

TABLE 13

POINT	TIME	UNIT	STATION (°T)	BRNG REF PT	FM RNGE FM REF PT	CUS	SPD	DIST	REMARKS
	162000	WASP*	0						CENTER
	"	VOGE*	3000						
	"	SMITH*	3270						
	"	JONES*	3090						
	"	JOHNSON*	3180						
A	162000	WASP	0	339°	75	075°	12	12	COMEX
B	2100	WASP	0	350°	75	130°	16	48	
C	170000	WASP	0	027°	45	250°	12	15	
D	0115	WASP	0	010°	36	160°	12	36	
E	0415	WASP	0	085°	18	010°	12	30	
F	0645	WASP	0	038°	38	155°	12	27	
G	0900	WASP	0	080°	35	080°	12	18	
H	1030	WASP	0	080°	53	142°	12	51	
I	1445	WASP	0	110°	90	090°	12	9	
J	1530	WASP	0	108°	99	330°	12	36	
K	1830	WASP	0	090°	76	310°	15	45	
L	2130	WASP	0	055°	50	050°	13	13	
M	2230	WASP	0	054°	60	125°	15	30	
N	180030	WASP	0	075°	78	340°	12	42	
O	0400	POCOHANTAS	0	045°	85	135°	12	33	UNREP*
P	0645	WASP	0	067°	92	166°	20	38	
Q	0839	WASP	0	090°	93	292°	12	28	
*UNLESS OTHERWISE INDICATED OR DIRECTED BY OTC, DDS REMAIN AS STATIONED THROUGHOUT PHASE II HOT WAR									

Observers **SEE TABLE 13A FOR RDVU AND UNREP FORMATION

Sheet 1 of 2 Sheets

TITLE
PHASE II HOT WAR SAU "A" NAVIGATION TRACK

DATE
162000-191715

DLRP 20N 161-30W CVS, - Op Ship

DICK SAU "A" GUIDE

TABLE 14

POINT	TIME	UNIT	STATION (°T)	BRNG FM REF PT	RNGE FM REF PT	CUS	SPD	DIST	REMARKS
A	162000	DICK	0	339°	75	065°	12	36	
		HARRY	12180						
AA	2300	DICK	0	005°	85	090°	12	96	
		HARRY	12180						
AB	170700	DICK	0	050°	134	180°	12	128	
		HARRY	12270						
AC	1740	DICK	0						
		HARRY	12285	113°	110	014°	12	45	
AD	2125	POCOHANTAS	0	090°	113	319°	12	79	GUIDE
		DICK	5.4274						
		HARRY	5.4004						
O	0400	POCOHANTAS	0	045°	85	135°	12	33	*
		DICK							*
		HARRY							*
P	0645	POCOHANTAS	0	066°	92	030°	12	27	
		DICK	5.4075						
		HARRY	5.4345						
AE		DICK	0	065°	125	315°	12	72	
		HARRY	12225						
AF		DICK	0	034°	119	270°	12	60	
		HARRY	12180						
AG		DICK	0	004°	99	180°	12	12	
		HARRY	12180						
*SEE TABLE 16 FOR RDVU AND UNREP FORMATION									
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PHASE II HOT WAR SAU "A" NAVIGATION TRACK

162000-191715

~~CVS~~ Op Ship

DICK SAU "A" GUIDE

TABLE 14 (CONT)

CONFIDENTIAL

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Sheet 2 of 2 Sheets

64-613-0289

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IND-NEL-5220/1 (REV. 9-64)

U. S. NAVY ELECTRONICS LABORATORY
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TITLE

PHASE II HOT WAR SAU "B" NAVIGATION TRACK

DATE

162000-191715

DLRP 20N 161-30W

CVS/DE Op Ship

KOELSCH SAU "B" GUIDE

TABLE 15

POINT	TIME	UNIT	STATION	BRNG	FRNGE	FM	CUS	SPD	DIST	REMARKS
			(°T)	REF PT	REF PT					
A	162000	KOELSCH	0	339°	75		054°	12	24	
		TOM	12324							
BA	2200	KOELSCH	0	356°	85		270°	12	78	
		TOM	12180							
BB	0430	KOELSCH	0	315°	119		180°	12	49	
		TOM	12090							
BC	0835	KOELSCH	0	293°	91		270°	12	12	
		TOM	12090							
BD	0935	KOELSCH	0	290°	102		000°	12	57	
		TOM	12090							
BE	1420	KOELSCH	0	314°	132		090°	12	92	
		TOM	12180							
BF	2200	KOELSCH	0	357°	92		116°	12	72	
		TOM	12180							
O	170400	WASP	0	045°	85		135°	12	27	*
		KOELSCH	4315							*
		TOM	4225							*
BG	0615	KOELSCH	0	063°	90		283°	17	47	
		TOM	12180							
BH	0900	KOELSCH	0	034°	62		270°	12	116	
		TOM	12180							
BI	1840	KOELSCH	0	302°	95		180°	12	82	
		TOM	12090							
*SEE TABLE 16 FOR RDVU AND UNREP FORMATIONS										

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PHASE II HOT WAR SAU "B" NAVIGATION TRACK

162000-191715

DLRP 20N 161-30W CVS/DE Op Ship

KOELSCH SAU "B" GUIDE

TABLE 15

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Sheet 2 of 2 Sheets

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DATA SHEET

11ND-NEL-5220/1 (REV. 9-64)

U. S. NAVY ELECTRONICS LABORATORY

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TITLE

PHASE II HOT WAR ASW UNREP

DATE

180400-180645 CVS/DE Op Ship

DLRP 20N 161-30W COURSE 135' SPEED 12

POCOHANTAS UNREP CENTER. FORMATION AND THREAT AXIS 000°.

TABLE 16

TIME	UNIT	STATION	BRNG	FM	RNGE	FM	REMARKS
			REF PT		REF PT		
180400	POCOH	0	045°		85		RDVU FORMATION CENTER
0400	WASP	1315				PROCEED	ALONGSIDE POCO HANTAS TO PORT
	VOGE	4000*				PROCEED	ALONGSIDE WASP TO PORT
	KOELSCH	4315*				PROCEED	ALONGSIDE POCO HANTAS TO STARBOARD
	DICK	4045*					
	SMITH	4270*					
	JONES	4090*					
	TOM	4225*					
	HARRY	4135*					
	JOHNSON	4180*					
0410	POCOH	0	047°		85		
	WASP	0					ALONGSIDE POCO HANTAS TO PORT
	VOGE	0					ALONGSIDE WASP TO PORT
	KOELSCH	0					ALONGSIDE POCO HANTAS TO STARBOARD
0440	POCOH	0	051°		86		
	WASP	0					ALONGSIDE POCO HANTAS TO PORT
	VOGE	0					BREAK AWAY FOR STA. 4000
	KOELSCH	0					BREAK AWAY FOR STA. 4315
	DICK	0					PROCEED ALONGSIDE WASP TO PORT
	SMITH	0					PROCEED ALONGSIDE POCO HANTAS TO STARBOARD
*ASSIGNED STATION EXCEPT WHEN ALONGSIDE FOR UNREP							
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11ND-NEL-5220/1 (REV. 9-64)

SAN DIEGO, CALIFORNIA 92152

PHASE II HOT WAR ASW UNREP
DATE _____

TABLE 16 (cont)

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NAVIGATION BOARD

PHASE II HOT WAR NAVIGATION

BLUE TRACKS

FIGURE 10

RELATIVE MOVEMENT

Relative direction	M ₁ - M ₂ - M ₃	Relative distance	Relative speed
Relative direction	M ₁ - M ₂ - M ₃	Relative distance	Relative speed

Use of vectors with logarithmic time, speed and distance scale

163W 162W 161W 160W 159W

19N 20N 21N

360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

4.1 3.1 2.1 1.1 0.1

80 76 72 68 64 60 56 52 48 44 40 36 32 28 24 20 16 12 8 4 0

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000

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SECTION III

3.1 OBJECTIVE. The objective of Section III is to provide opportunity for maximum exercise ASW weapon attacks on submarine in semi-controlled conditions, and to a lesser degree, to provide opportunities to exercise non-ASW weapons on surface and air targets.

3.2 BLUE PLAN. The BLUE ASW Group will be in Carrier Ready Formation 40 (Form 40), Axis 000°. Either the CVS or a DE may be the Operational Ship. WASP will be the Formation Center and Guide. The ASW Group navigation track and formation is indicated in Table 11 and Figure 31. Each weapon system of the DEs and the CVs will be exercised at least once. Attacks will be limited to conventional weapons.

3.3 PURPLE PLAN. This section is designed for maximum exercise ASW weapons expenditure. In pursuit of this objective, PURPLE submarines will frequently expose themselves and force contact. PURPLE units will not fire their weapons during this phase of the exercise. PURPLE navigation tracks and contacts. are contained in Section IV Prohibited Section.

3.4 WEAPONS. The DE ASW weapons to be tested are ASROC depth charge, ASROC torpedo, DASH, MK-37 torpedo and MK-46 torpedo. Additionally, the A4 interceptor aircraft aboard WASP, and the TERRIER SAM systems on JOHNSON will be kept in Readiness Condition ONE and will be launched at least once. To assure that all weapons are used at least once, OTC has directed that weapons be used as indicated when target is at the following ranges.

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<u>WEAPON</u>	<u>TARGET</u>
MK 46 MOD 0 Torpedo	SUB 0-5,000 yards
MK 37 MOD 1 Torpedo	SUB 5-8,000 yards
ASROC Depth Charge	SUB 8-12,000 yards
ASROC Torpedo	SUB 12-16,000 yards
DASH	SUB 7-16,000 yards
5 guns	SURF 0-15,000 yards
Terrier	AIR 15-30,000 yards
A4	AIR 30-100 NM

11ND-NEL-5220/1 (REV. 9-64)

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PHASE III ASW GROUP NAVIGATION TRACK

200000-220000

DLRP 20N 161-30W

CVS/DE OpShips

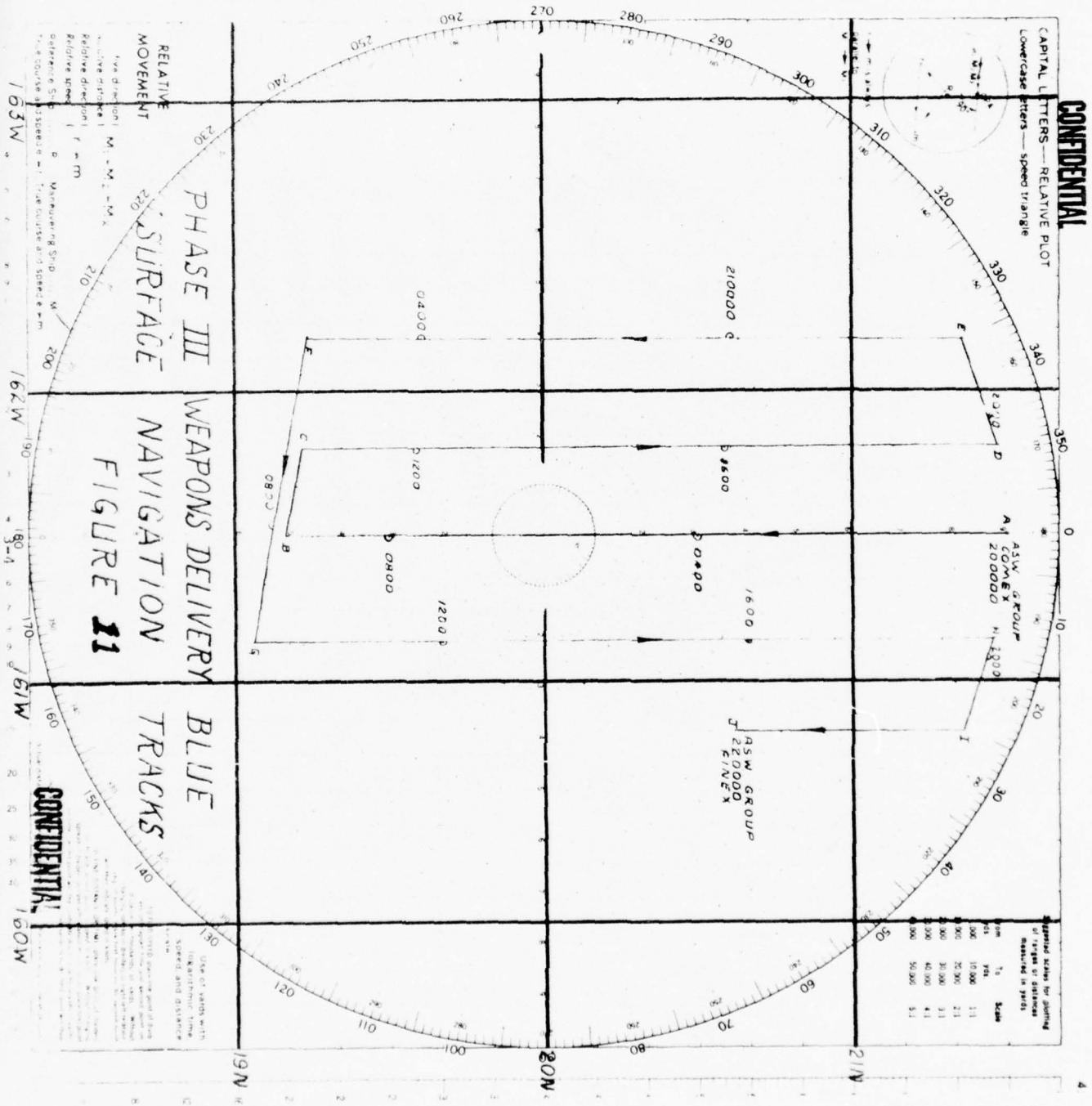
TABLE 31

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3-3

Sheets

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SECTION IV
PROHIBITED SECTION

4.1 GENERAL. In a normal Operational Readiness Evaluation, except for boundaries and safety considerations, the BLUE or ASW Group, and the PURPLE submarines are pitted against each other. Each side attempts to "destroy" the adversary without loss to his own force. Every trick of the trade is used to deceive the opponents. The objective is to demonstrate each group's readiness and ability to carry out typical ASW missions.

For demonstrating the ASWSC&CS, the situation is somewhat different. The sensory equipment has been tested and widely used. Only the computerized digital data processing system and communication links are undergoing test and evaluation. Accordingly, it is desirable for the submarines to force contact more frequently than otherwise might be prudent in order to maximize testing in a minimum length of time, consistent with exercise objectives.

4.2 PHASE I PART I - NARROW PASSAGE. -

4.2.1 CORK'S TRACK. CORK's track is depicted in Figure 41 and listed in Table 41. CORK enters the eastern boundary of the area at 130900 at periscope depth. Varying depth from 50' to 500' CORK makes contact with DICK at 1420, KOELSCH at 1815, and TOM at 1948 as listed in Table 42.

4.2.2 Expected Results. -

4.2.2.1 DICK's CONTACT. At 1420 DICK receives a sonar contact bearing 068T 6000 yards. It is anticipated that DICK will

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track the contact to determine CORK's course and speed. Once this is determined, DICK should change course and speed to intercept the contact. DICK should report the initial contact to COMASWBLUE and the ASW Group via Barrier Reporting Net #2 and keep BLUE units informed of the status of the contact. The Operational Ship should plot the contact, attempt to identify the type of submarine, and pass information on the contact to other BLUE units via Link 11 and 14.

4.2.2.2 KOELSCH's CONTACT. About 1425 KOELSCH should receive DICK's contact report and should anticipate CORK's passage about 1900. At 1815 KOELSCH receives a sonar contact bearing 125T 8200 yards. It is anticipated that KOELSCH will track the contact to determine CORK's course and speed. Once this is determined, KOELSCH should change course and speed to close the contact. KOELSCH should report the contact to COMASWBLUE and C&CS Ships via Link 11, and other ships in the ASW Group via Link 14. Amplifying reports should also be sent via the same channels.

4.2.2.3 TOM's CONTACT. TOM should anticipate contact with CORK about 2000. At 1948 TOM receives a sonar contact bearing 325T 6800 yards. As KOELSCH still holds the contact, TOM should verify KOELSCH's contact information via Barrier Reporting Net #2 and keep BLUE units informed of the position of the contact. It is anticipated that TOM will alter course and speed as required to track the contact.

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PHASE I PART I CORK TRANSIT

130900-141200 PROHIBITED SECTION

REF PT 21N 159W (Brng 067° 154NM from DLRP 20N 161-30W)

DE OPERATIONAL SHIP

TABLE 41

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Sheets

NY 643-2289

MANEUVERING BOARD

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RELATIVE PLOT
ed triangle

Suggested scales for
of ranges or data
measured in years

From yds.	To yds.
1,000	10,000
10,000	20,000
20,000	30,000
30,000	40,000
40,000	50,000

22N

21 N

CORR
130900

PHASE I PART I NARROW PASSAGE
PURPLE SUBMARINE TRANSIT
FIGURE 41

4-4

Maneuvering Ship M
True course and speed $\Rightarrow m$

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Actual distance and speed units can be used in the same way as

1400-NFL-3400-15 (REV. 12-83)

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TABLE 42 PHASE I PART I CORK TRANSIT AND TARGET

130900 - 141200 PROHIBITED SECTION

ON OPERATIONAL SHEP

(SEE TABLES 1, 2, 5 AND FIGURES 1, 2, 41 FOR ADDITIONAL

INFORMATION.

INDEX

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1

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4.3 PHASE I PART II - BROAD PASSAGE. -

4.3.1 STOPPER's TRANSIT. STOPPER track is depicted in Figure 42 and listed in Table 43. STOPPER enters the eastern boundary of the area at 130900. Alternately submerging and snorkeling, STOPPER excites sonobuoys from 131134 through 1332, radar and sonobuoys from 131341 through 1819, and 131924 through 2151. A false visual contact is simulated at 131953 (nite) for one minute at a distance of 12 miles. STOPPER course is 270T and speed is varied 1.8 to 8.0 knots. Target simulations are received by sonobuoys for transmission to BLUE VP ANEW aircraft as listed in Table 44.

4.3.2 EXPECTED RESULTS. -

4.3.2.1 SONOBUOY CONTACT. At 131239 Sonobuoy #7 (SB-7) transmits to a BLUE P3 VP ANEW aircraft a target indication bearing 125T. The P3 should transmit this information to COMASWBLUE and C&CS ships via Link 11, and other BLUE units via Link 14. At 1252 SB-11 transmits to the same P3 a target indication bearing 135T. The P3 should transmit this information as before. This information should enable the Operational Ship to determine the approximate position of STOPPER. The Operational Ship may direct the P3 to try to localize the contact.

4.3.2.2 RADAR - SONOBUOY CONTACT. At 121434 the VP ANEW P3 radar receives a brief one minute contact of a snorkeling submarine. At 1435 the submarine submerges and the contact is

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lost. The P3 should transmit this information via Link 11 and Link 14 to BLUE units. At 1439 SB-7 transmits to the P3 a target indication bearing 250T. The P3 should transmit this information to BLUE units. This information should enable the Operational Ship to determine STOPPER's approximate position. The OPSHIP may direct the P3 to try to localize the contact. At 1452 SB-11 transmits to the P3 a target indication bearing 153T. The P3 should send this information to BLUE units. This information should enable the Operational Ship to determine the position, course and speed of STOPPER.

4.3.2.3 VISUAL CONTACT. At 121953 the P3 sends a Link 11 and Link 14 message that he made brief contact with a periscope bearing 275T range 12 NM course 000T speed 2K. In view of the range to the contact, small size, slow speed, and reduced visibility, it is expected that the Operational Ship will evaluate the contact as false.

4.3.2.4 SONOBUOY CONTACTS. At 122016 Sonobuoy SB-13 transmits to the P3 a target indication bearing 105T which should be relayed to BLUE units via Link 11 and Link 14. At 2025 the P3 radar picks up a target bearing 161T 27 NM which should be relayed to BLUE units via Link 11 and Link 14. This information should enable the Operational Ship to update the predicted position of the contact. At 2052 SB-11 transmits to the P3 a

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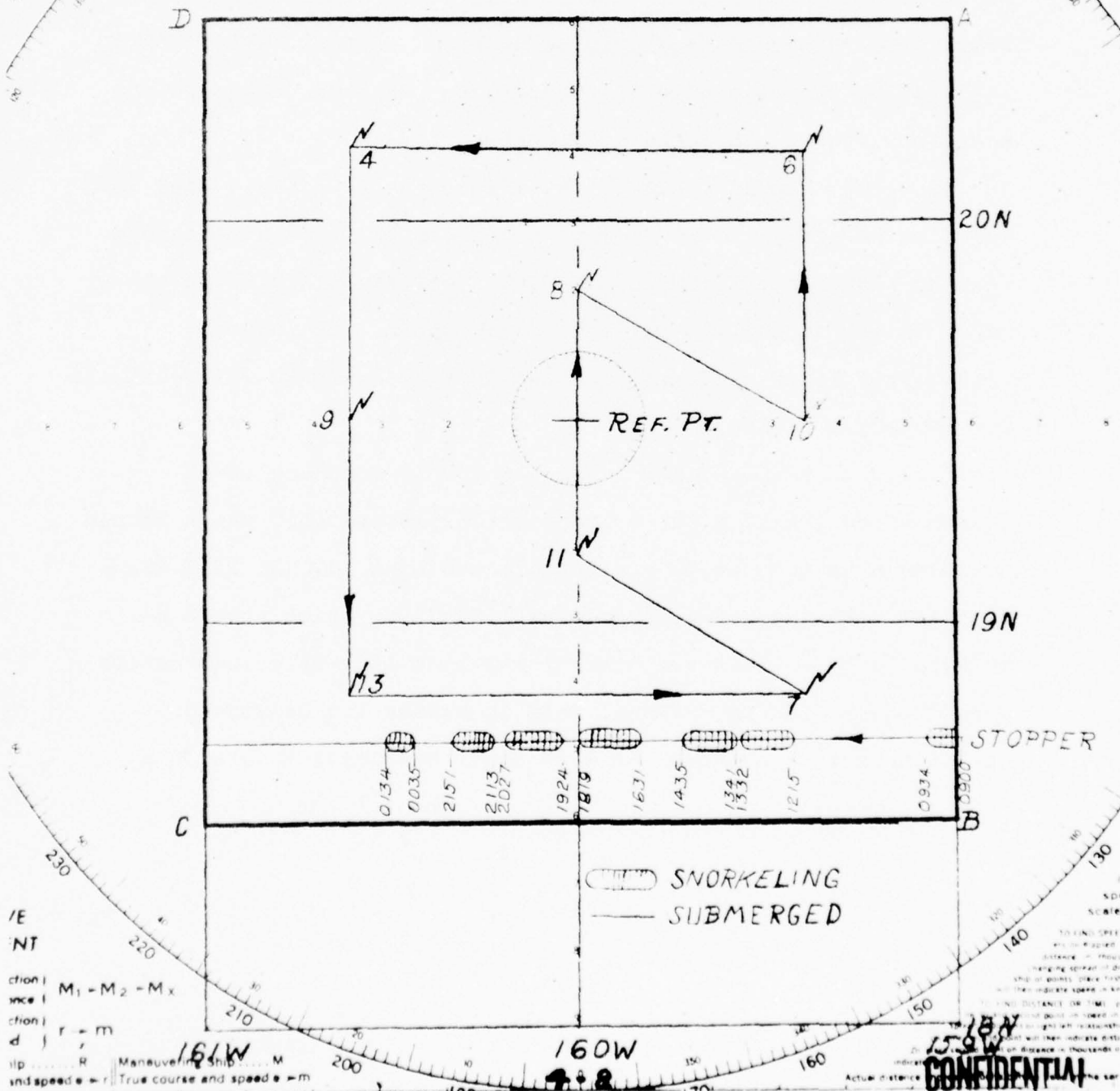
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LETTERS — RELATIVE PLOT
letters — speed triangle

Suggested scale
of ranges &
measures

From yds.	T yc
1,000	10
10,000	20
20,000	30
30,000	40
40,000	50

PHASE I PART II BLUE VP ANEW TRACK AND STOPPER TRANSIT FIGURE 42



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100-03

CALCULATION SHEET

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TABLE 4. PHASE I PART II STOPPER TARGET AND TRANSITION

OBSERVER'S DATA SHEET

130900 - 141200 PROHIBITED SECTION

VP ALEM AIRCRAFT - CVS/DE OPERATIONAL SHIP

(SEE TABLES 3, 4, 5, 43 AND FIGURES 1, 3, 42 FOR ADDITIONAL

INFORMATION.)

[illegible]

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IND-NEL-3900/17 (REV. 12-63)

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130900 - 141200 PROHIBITED SECTION

(SEE TABLES 3, 4, 5, 43 AND FIGURES 1, 3, 42 FOR ADDITIONAL INFORMATION.)

[illegible]

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target indication bearing 204T which should be sent to BLUE units. The OPSHIP should again update the predicted track of the contact and will probably classify the goblin as a "probable" submarine.

4.4 PHASE I PART III - TRAINING. -

4.4.1 BOGEY AND SKUNK CONTACTS. BLUE A3 aircraft (bogeys) and SH3 helicopters (skunks) approach ASW Group as indicated in Figure 43 and Table 44.

4.4.2 BOGEY ONE. At 131000 one BLUE A3 departs the northwest tip of Oahu Island on a southwest course at high altitude. At 131005, WATCHDOG VOG's air search radar picks up the bogey bearing 080T 60 NM, course 240T, speed 360K. At 1015 WASP's air search radar picks up the bogey bearing 045T 107NM, course 225T, speed 360K, altitude 5,000 feet.

4.4.3 EXPECTED RESULTS. It is expected that VOG will send a Link 11 Data Message to BLUE ASWSC&CS units, and a Link 14 message to other BLUE units. WASP should launch two A4 aircraft to intercept the bogey. The Operational Ship should direct one or more units of the BLUE ASW Group to engage the target. WASP should update the position of the bogey via Link 11 and Link 14 as it approaches the ASW Group.

4.4.4 SKUNK ALPHA. At 131105 one BLUE helicopter (simulated PT boat) approaches the ASW Group on a zig-zag southwesterly course. At 1105 SMITH's surface search radar picks up the bogey bearing 040T 36NM course 180T speed 40K. At 1108 WASP's radar picks up the skunk bearing 045T 36NM, course 180T, speed 40K.

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4.4.5 EXPECTED RESULTS. It is expected that SMITH will report the skunk by Surface Reporting Net #3, keep BLUE units informed of the position of the skunk, and engage the target with GFCS. The Operational Ship should direct one or more units of the BLUE ASW Group to engage the target. As the skunk approaches the force WASP should update its' position via Link 11 and Link 14.

4.4.6 SKUNK BRAVO AND BOGEY TWO. At 131515 one BLUE helicopter approaches the ASW Group on a zig-zag westerly course. At 1515 HARRY's surface search radar picks up SKUNK BRAVO bearing 086T 24NM, course 248T, speed 40K. At 1518 WASP picks up the skunk bearing 088T 24NM, course 248T, speed 40K.

At 131530 one BLUE A3 departs Kaula Rock on a southwesterly course as a low flyer. At 1535 WATCHDOG VOGUE's air search radar picks up Bogey TWO bearing 045T 36NM, course 253T speed 360K. At 1553 WASP's radar picks up the bogey bearing 007T 42NM, speed 360K, altitude 50 feet.

4.4.7 EXPECTED RESULTS. HARRY should report Skunk TWO via Surface Reporting Net #3, keep BLUE units informed of the position of the target, and engage it with GFCS. The Operational Ship should direct one or more ships of the ASW Group to engage the target. WASP should update the target's position via Link 11 and Link 14.

VOGUE should send a Link 11 Data Message to BLUE ASWSC&CS units and a Link 14 message to other BLUE units. WASP should launch two A4 aircraft to intercept Bogey TWO. The Operational Ship should direct one or more units of the BLUE ASW Group to

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engage the bogey. WASP should update the position of the target as it approaches the ASW Group.

4.4.8 BOGEY THREE. At 132000 one BLUE P3A departs Kaula Rock on a southwesterly course as low flyer and night heckler. At 2019 VOGUE detects the bogey bearing 013T 40NM, course 227 speed 300. At 2033 the contact enters a fade. At 2037 the ELB airborne picket picks up the bogey bearing 332T 17NM, course 188T, speed 300K. At 2038 WASP picks up the bogey bearing 007T 37NM, course 188T speed 300K.

4.4.9 EXPECTED RESULTS. VOGUE should send a Link 11 Data Message to ASWSC&CS units, and a Link 14 message to other BLUE units. The Operational Ship should direct DLG JOHNSON via Link 11, to engage the bogey with TERRIER missile system. The OPSHIP may direct via Link 14 other BLUE units to engage the bogey. WASP and/or JOHNSON should update the position of the bogey via Link 11 and Link 14 as it approaches the ASW Group. The ELB should send via Aircraft Reporting Net #4 a position report on the approaching bogey.

4.5 PHASE II COLD WAR. -

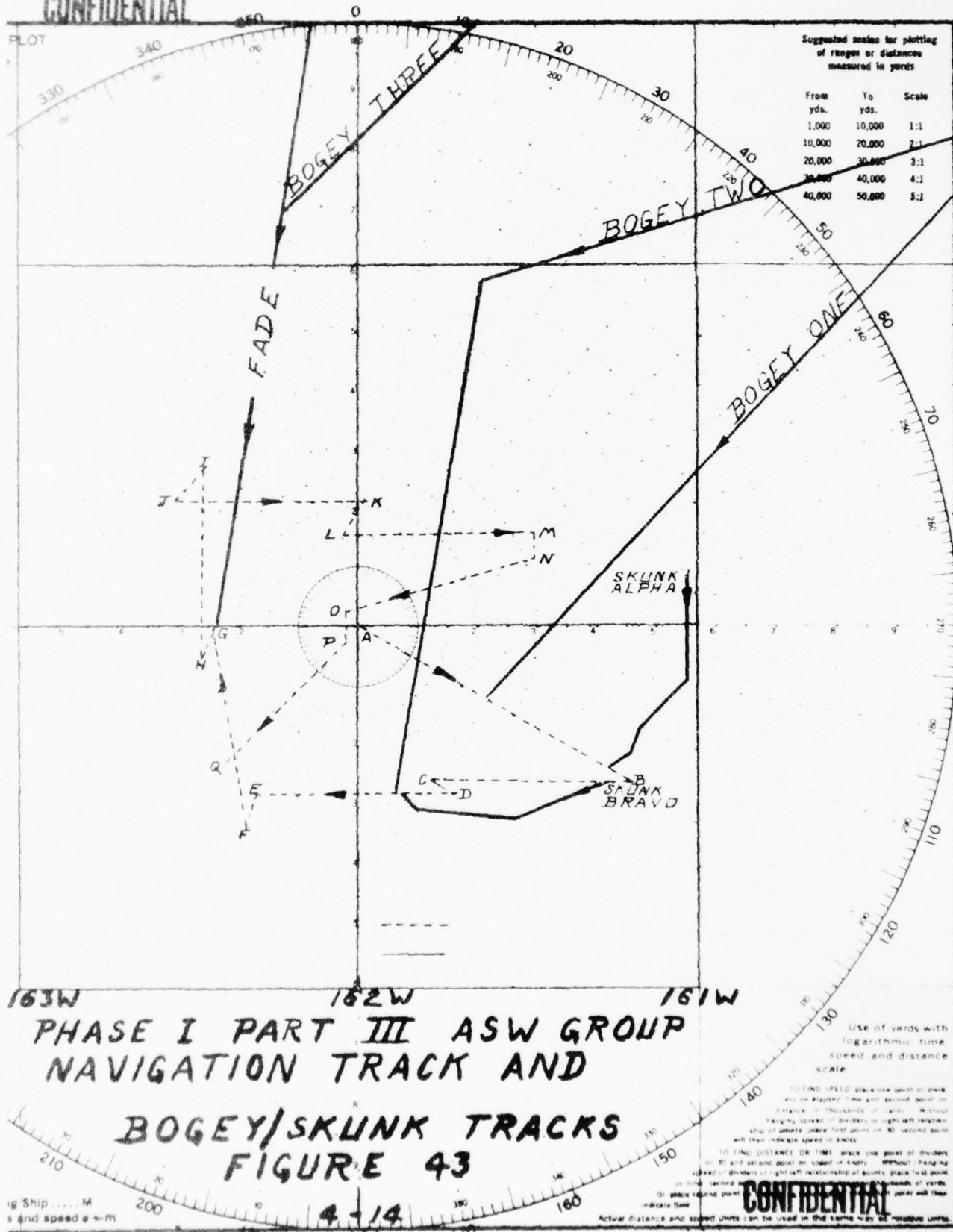
4.5.1 SITUATION. Phase II from 141600 to 191715 is a combined Cold and Hot War situation. The area of operations is about 195 miles by 225 miles. The BLUE Task Group will conduct surface and sub-surface surveillance operations in the area with assigned air and surface units, and supporting VP (non-ANEW) aircraft. BLUE forces will escort and provide ASW protection for designated logistic ships entering or transiting the area.

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SCALE
4:1



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OBSERVER'S DATA SHEET

LINK DETECTIONS

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4-15

62-613-3289

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During the Cold War BLUE forces will attempt to locate and track PURPLE submarines in the area. Upon receipt of a declaration of war, BLUE forces will seek out and destroy PURPLE submarines, PT boats, and aircraft in the area.

4.5.2 FAST SUB-SAU BRAVO INCIDENT. At 142030 CORK detects SAU BRAVO consisting of KOELSCH and TOM at 9,000 and 12,000 yards respectively. CORK closes the contact and tracks KOELSCH and TOM until they conduct hold-down tactics. At this time CORK makes a 358° port turn at 8 knots, then a 358° starboard turn at 12 knots, in an attempt to break the contact. Contact is broken at 2300. CORK navigation track and simulations are depicted in Tables 46 and 46A, and Figure 44.

4.5.3 EXPECTED RESULTS. KOELSCH and TOM should alter course and speed as required to track and hold down the goblin. KOELSCH should report the contact by Link 11 Data Message to ASWSC&CS units and other BLUE units by Link 14. Amplifying reports should also be sent via the same channels.

4.5.4 SLOW SUB-PLUG INCIDENT. At 151238 Sonobuoy #XI (SB-XI) transmits to a BLUE S2E aircraft a contact bearing 199T, and at 1408 bearing 062T. At 2000 STOPPER sights PLUG bearing 068T 6800 yards and PLUG's sonar has a contact bearing 248T 6800 yards as STOPPER is turning away to course 135T 4 knots. At 2122 the S2E and PLUG picks up a surface radar contact bearing 084T 14NM. STOPPER attempts to break contact by diving below the layer (300'), running quietly, and making a square three miles to a side on courses 135T at 4 knots, 225T at 8 knots, and 315T at 12 knots. STOPPER then parallels PLUG's course for about two hours.

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4.5.5 EXPECTED RESULTS. The S2E should report the sonobuoy contact via Barrier Net #2. The OPSHIP should relay the information to other BLUE units via Link 11 and 14, and may direct the S2E to localize the contact. When PLUG and its S2E escort detect STOPPER by radar, they also should report the contact by Surface Reporting Net #3. The OPSHIP should relay the information to other BLUE units via Link 11 and 14, and may direct PLUG and its S2E escort to localize the contact. STOPPER navigation track and simulations are depicted in Tables 47, 47A and Figure 44.

4.5.6 SNOOPER AIRCRAFT. At 142045 a PURPLE A3 approaches the operating area at 3000 feet, and enters the area in the vicinity of 21-40N 160-30W course 210T speed 360K. At 142125 WASP picks up the high speed bogey bearing 208T 60NM, course 210T, speed 360K. At 2145 the bogey enters a fade and the contact is lost. At 2150 SAU ALPHA with DICK and HARRY pick up the bogey bearing 278T 48NM, course 085T, speed 360K.

4.5.7 EXPECTED RESULTS. WASP should report the bogey to ASWSC&CS ships via Link 11 and other BLUE units via Link 14. WASP will probably launch two A4 aircraft to intercept the bogey. The Operational Ship may direct one or more BLUE units to engage the target. DICK should report the bogey to the ASW Group over Air Reporting Net #4 and engage the target.

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DATA SHEET

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PHASE II CORK COLD WAR NAVIGATION TRACK

141600-162000 PROHIBITED SECTION

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 46

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$$x = 2 + 0.67 = 2.67$$

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CORK TARGET SHIP

WATER 16A PHASE II OLD MAR

141600-162000 PROHIBITED SECTION

NOE 30W 161-30W CVS/DE OP SHIP

(SEE TABLES 6, 6A, 7, 46 AND FIGURES 6, 7, 44, FOR ADDITIONAL INFORMATION)

REGION																		
INPR																		
LINE	TOT DEPTH	TOT RANGE	TOT	TOT	TOT	UNIT	SENSOR	TOT RANGE	TOT PAGE	C.S.	COURSE FREED	C.S.	TGT	TGT	TIME	TIME	RPT SENT	RPT REC
	FM DEPTH	FM RANGE	FM DEPTH	DEPTH	SPEED	(O.S)		FM SENS	FM SENS	COURSE FREED	C.S.	COURSE	SPEED	DEPTH	C/G	C/G	OPSHIP	OPSHIP
142040	108	96	151	300	8.0	KOELSCH	S4S-26	330	9000	180	12							
	"	"	"	"	"	TOM	S4S-23	061	12000	180	12							
2115	305	89	332	300	8.0	KOELSCH	S4S-26											
	"	"	"	"	"	TOM	S4S-23											
2200	108	96	151	500	12.0	KOELSCH	S4S-26											
	"	"	"	"	"	TOM	S4S-23											
2300	310	93	330	500	12.0	KOELSCH	S4S-26											
	"	"	"	"	"	TOM	S4S-23											
2300	100F																	
152102	250	65	290	400	5.0	WP	SB-WF	102										
2345	100F																	
160201	232	60	290	100	7.0	WP	SB-WF	100	160	173								

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DATA SHEET

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TITLE

DATE _____

PHASE II STOPPER COLD WAR NAVIGATION TRACK

141600-162000 PROHIBITED SECTION

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 47

[illegible]

Observers

4-21

Sheet

of

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CARTEL 47A PHASE II COLD WAR STOPPER TARGET SHIP

141600-162000 PROHIBITED SECTION

TRAP 20N 161-30W CVS/DE OPS:HIP

SEE TABLES 6, 9, 10, 12, 47, and FIGURES 8, 9, and 44

FOR ADDITIONAL INFORMATION)

PLUG TRANSIT SHIP

[illegible]

DATA SHEET

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141600-162000 PROHIBITED SECTION

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 48

[illegible]

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Observers

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Sheet

of

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0-11 141600 - 162000 PROHIBITED SECTION

(See Tables 6, 7, 49 and Figures 9, 45 for additional

information)

[illegible]

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PHASE II COLD WAR SUB-SURFACE PURPLE TRACKS

BLUE TRACKS, TRACKS, TRACKS, FIGURE 44

RELATIVE MOVEMENT

RELATIVE SHIP

RELATIVE TRACK

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FIGURE 44

Many of your students may still have trouble understanding the relationship between speed and distance. Use of yards with logarithmic time scale

NO. 1

191

10

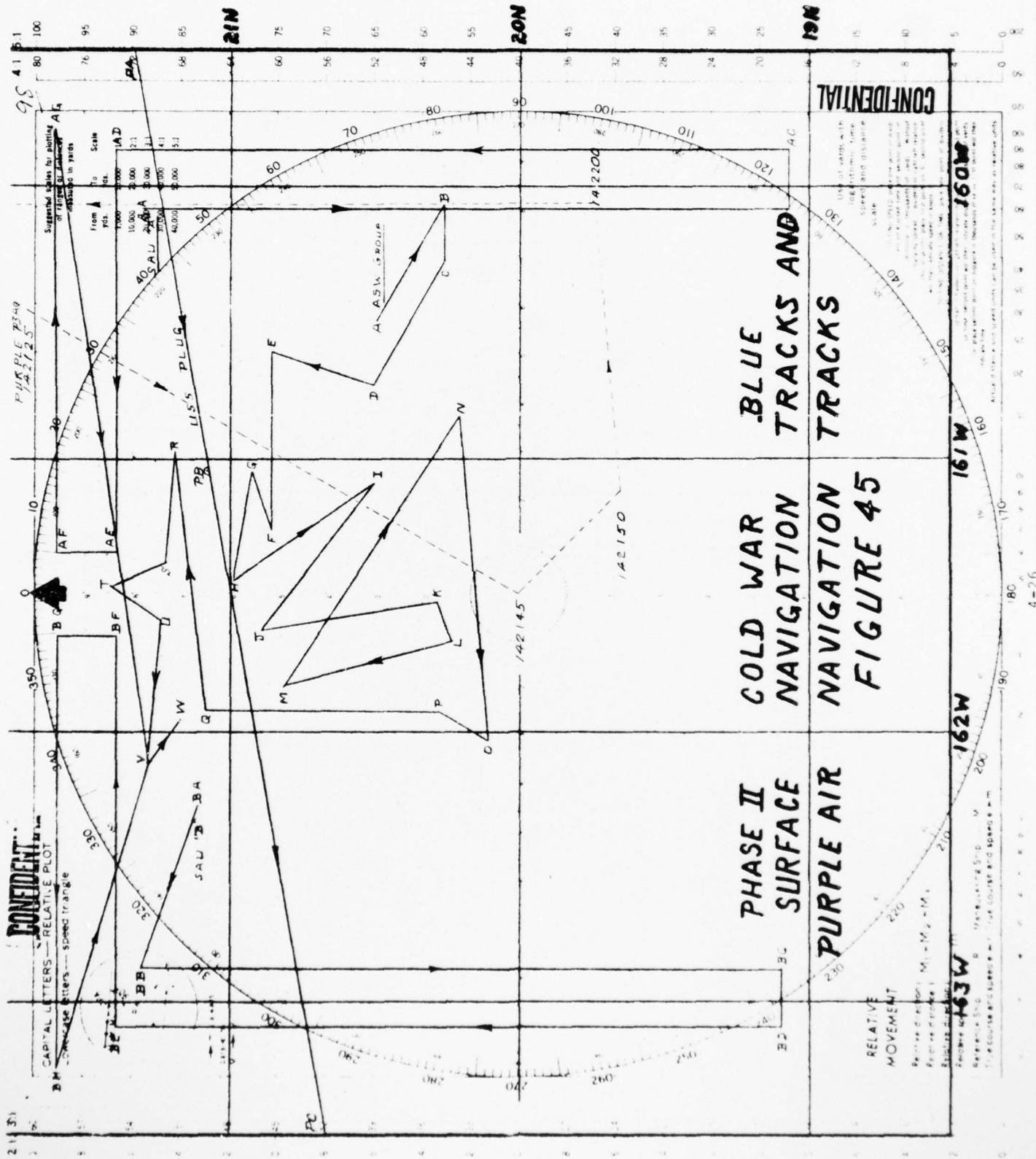
210
M
9 Relieving Ship
The course and speed

Relative to
Reference Ship
True Course and

[illegible]

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CAPITAL LETTERS — RELATIVE PLOT
— Course letters — speed triangle



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4.6 PHASE II - HOT WAR. -

4.6.1 OBJECTIVE. Upon receipt of a formal declaration of war (162000), BLUE Forces will seek out and destroy PURPLE submarines. At the same time PURPLE submarines will open hostilities against BLUE forces, including torpedo and missile firings. Priority of targets is assigned as follows:

TORPEDOES

1	OILER
2	TROOP SHIPS
3	CARGO SHIPS
4	CVS
5	DD TYPES
6	TARGETS OF SPECIAL SIGNIFICANCE
X	AS DESIGNATED BY COMPURPLE

MISSILES

2
3
4
1
5
6
X

4.6.2 SAU ALPHA ATTACK AND ASW GROUP SCREEN PENETRATION. -

4.6.2.1 SURVEILLANCE BOGEY. At 170420 a PURPLE A3 surveillance aircraft approaches the operating area from the northeast. At 0500 SAU ALPHA is picked up on radar and visually sighted at 0505. A contact report is sent to CINCPURPLE. At 0510 the ASW Group is picked up on radar at 62 miles and a flash contact report is sent. The ASW Group is visually sighted at 0519, and reported by message to CINCPURPLE at 0522. At 0534 SAU BRAVO is picked up on radar and visually sighted and reported at 0545.

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CINCPURPLE relays these contact reports to PURPLE submarines. The A3 navigation track is depicted in Table 54, 54A and Figure 47.

4.6.2.2 EXPECTED RESULTS. SAU ALPHA (DICK) should send via Aircraft Reporting Net #4 a position report on the approaching high speed aircraft bogey. The Operational Ship, via Link 11 and/or Link 14 should direct WASP to launch two A4's to intercept the bogey, and should direct one or more DLG/DD's to engage and destroy the bogey as it approaches the ASW Group. SAU BRAVO (KOELSCH) should report the bogey via Link 11 and Link 14, and should engage the bogey with ship's GFCS.

4.6.2.3 SAU ALPHA ATTACK. At 170140 STOPPER is picked up by Sonobuoy XG. At 0157 and 0257 Sonobuoy XG transmits to S2E-XE aircraft a target indication bearing 264T and 305T respectively. At 0515 STOPPER receives a message from CINCPURPLE that two destroyers are 35 miles to the north and proceeding easterly at 12 knots. STOPPER adjusts course and speed to intercept the destroyers. At 170800 STOPPER sights DICK bearing 050T and DICK makes sonar contact with STOPPER bearing 230T 7800 yards. At 0805 STOPPER sights HARRY bearing 310T and HARRY makes sonar contact with STOPPER bearing 130T 7800 yards. At 0810 STOPPER fires two MK-16 torpedoes at DICK. DICK picks up the torpedoes at a range of 3400 yards. At 0840 STOPPER fires two MK-16 torpedoes at HARRY. HARRY picks up

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F/G 17/2

ASW SHIP COMMAND AND CONTROL SYSTEM: FREEPLAY/ASW EXERCISE TEST--ETC(U)

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UNCLASSIFIED

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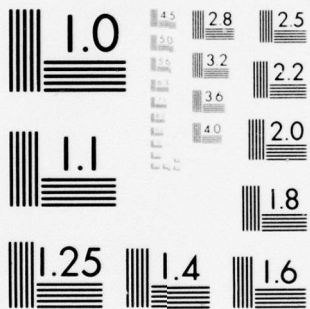
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NATIONAL BUREAU OF STANDARDS-1963-A

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the torpedoes at a range of 3700 yards. STOPPER escapes by making a zig-zag course to the west. The navigation tracks are depicted in Tables 52, 52A and Figure 46.

4.6.2.4 EXPECTED RESULTS. The S2E-XE is expected to send via Barrier Reporting Net #2 the sonobuoy emission contacts. The Operational Ship is expected to relay the information on the contact via Link 11 and Link 14, and may direct aircraft to localize the sonobuoy contact.

DICK and/or HARRY are expected to report the sonar contact via Submarine Reporting Net #5, engage the submarine with UBPCS, and fire ASW weapons at STOPPER. DICK and HARRY should attempt to evade the high speed torpedoes fired by STOPPER and launch a counter-attack.

4.6.2.5 SCREEN PENETRATION. At 170340 CORK is picked up by Sonobuoy ZA. At 0422 Sonobuoy ZA transmits to BLUE P3A patrol aircraft a target indication bearing 232T. At 0810, an ASW Group helicopter in Station 6135 picks up CORK on dipping sonar bearing 222T 15,200 yards. At 0815 an ASW Group destroyer in Station 3180 picks up CORK on SQS-23 sonar bearing 195T, 10,800 yards. CORK fires two MK-16 torpedoes at WASP at 4,000 yards. CORK escapes by following a zig-zag course to the north.

4.6.2.6 EXPECTED RESULTS. The BLUE P3A aircraft is expected to send via Barrier Reporting Net #2 the sonobuoy emission contact. The Operational Ship is expected to relay the information on the contact via Link 11 and Link 14, and may direct aircraft to localize the sonobuoy contact. Likewise the ASW Group helicopter is expected

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to send via Barrier Reporting Net #2 the contact which the Operational Ship is also expected to relay via Link 11 and Link 14, plus directing aircraft and destroyer screen to localize and attack the goblin. When the two high speed torpedoes are fired at WASP, WASP should attempt to evade the torpedoes.

4.6.3 POCOHANTAS STOPPER INCIDENT. -

4.6.3.1 SURVEILLANCE BOGEY. At 0438 a PURPLE surveillance aircraft approaches the operating area from the northeast and at 0459 picks up a radar contact of a large group of ships at 80 miles. At 0459 WASP air search radar picks up the bogey bearing 038T 80 miles, course 220K, speed 360K, altitude 3500 feet. At 0508 the A3 visually sights the ASW Group bearing 230T, range 24 miles, course 135 speed 12. The A3 sends a contact report to COMPURPLE and PURPLE submarines. The A3 navigation track is depicted in Table 54 and Figure 47.

4.6.3.2 POCOHANTAS ATTACK. At 180515 STOPPER receives the contact report and turns to course 180T speed 15K to intercept BLUE force. At 0645 STOPPER sights the BLUE ASW Group bearing 208T 24NM. WASP has completed fueling from POCOHANTAS and is turning south at 20 knots to launch aircraft. The possibility of a successful attack on WASP is remote. However, POCOHANTAS is turning port to course 030T speed 12K. Although POCOHANTAS appears well screened by two destroyers, STOPPER maneuvers on the port bow of DICK to attack. At 0715 DICK makes sonar contact with the goblin bearing 026T 18,700 yards. At 0744 STOPPER fires two MK-16 torpedoes at POCOHANTAS at 4,200 yards. STOPPER escapes by diving below the layer, and running on the opposite course of POCOHANTAS at 12 knots. The navigation

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track of STOPPER is depicted in Table 52 and Figure 46.

4.6.3.3 EXPECTED RESULTS. The Operational Ship, via Link 11 and/or Link 14 should direct WASP to launch two A4 aircraft to intercept the bogey, and should direct one or more destroyers to engage the bogey with GFCS.

DICK is expected to engage the submarine, attack the target with an ASW weapon, and report the contact via voice circuit Submarine Reporting Net #5. When the two torpedoes are fired at POCOHANTAS, DICK is expected to alert POCOHANTAS and advise of a safe course to be steered.

4.6.4 MISSILE INCIDENT. -

4.6.4.1 SURVEILLANCE BOGEY. At 191202 a PURPLE A3 transiting aircraft enters the operating area from the southwest and at 1216 picks up a radar contact indicating a large group of ships bearing 025T 113 miles. At the same time WASP picks up the bogey bearing 205T 118 miles, course 030T speed 360K, altitude 24,000 feet. At 1231 the aircraft sights the BLUE ASW Group bearing 012T range 26 miles, course 208T, speed 13K. The A3 sends a contact report to COMPURPLE and PURPLE submarines. The A3 navigation track is depicted in Table 54 and Figure 47.

4.6.4.2 ELECTRONIC FIX. At 191237 STOPPER receives the contact report. STOPPER realizes the distance and disposition of the ASW Group makes the chances of a successful torpedo attack remote. However, at 1310 STOPPER holds an electronic emission bearing 325T. At 1312 CORK also holds an electronic emission bearing 073T. Hump frequency analysis of the electronic emissions indicate the ship to

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be a BLUE aircraft carrier and probably the same carrier reported by the A3. The target's range from STOPPER is estimated at 74 miles, course 208T, and speed 13K. At 1320 STOPPER fires an initial salvo of two cruise missiles at WASP which are picked up by WASP's air search radar bearing 156T 74 miles, course 326T, speed 800K, altitude 2000 feet. At 1323 STOPPER fires a second salvo of two cruise missiles. The second salvo is picked up by WASP and JOHNSON at 1323 bearing 156T 74 miles, course 326T speed 800K, altitude 1500 feet. At 1333 STOPPER dives deep and escapes to the south at slow speed.

4.6.4.3 EXPECTED RESULTS. WASP should report the bogey via Link 11 and Link 14 Data Message, and launch two A4 aircraft to engage the contact. The Operational ship will probably direct by Link 11 and/or Link 14 one or more DDs to engage the contact.

WASP should report the approach of the cruise missiles via Link 11 and Link 14 Data Message. On receipt of the Data Message, JOHNSON should engage the missiles with TERRIER missile system, and the Operational Ship should direct JOHNSON to engage the missile and one or more S2E aircraft to seek out and destroy STOPPER.

4.6.5 FINEX. At 191715 COMPURPLE signals FINEX.

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Sheets

CALCULATION SHEET

TABLE 51A, PART II, HOT WAR CORK TARGET SHIP NE-16 MOD 6 TORPEDO OBSERVER'S DATA SHEET

160000-191715 ENGINEERED SECTION

DIRP FOR 161-30M CWS/DE OPHIP

(See Tables 9, 11, 13, 51 and Figures 8, 9, 46 for

Additional Information)

INPUT												RESPONSE											
TIME	TOT	TOT BRNG	TOT RANG	TOT	TOT	UNIT	SENSOR	TOT BRNG	TOT RANG	O.S.	O.S.	TOT	TOT	TIME	TIME	HIT	SENT	BA	REC				
		FM DIRP	FM DIRP	COURSE	SPEED	DEPTH	(O.S.)					FM SENSE	FM SENSE	COURSE	SPEED	COURSE	DEPTH	O/C					
170422	CORC	131	32	120	10.8	300	VP	SE-2A	232		270	172											
0426	TRAP																						
170810	CORC	078	32	000	12	300	H-3	SONAR	222	15,200	155	12											
0815	CORC	075	32	000	12	200	DICK	SONAR	195	10,800													
0830	CORC	070	33	090	15	200	WASP	SONAR	070	5,700													
0834	2 NE-16	071	34	090	46	32	WASP	SONAR	260	4,000													

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TABLE 51A. PHASE II HOT WAR CORK TARGET SHIP MK-16 MOD 6 TORPEDO OBSERVER'S DATA SHEET

162000-191715 PHOTOGRAPHED SECTION

DLAP 20N 161-30W CVS/DE OPSHIP

(See Tables 9, 11, 13, 51 and Figures 8, 9, 46 for

additional information)

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PHASE II HOT WAR STOPPER NAVIGATION TRACK

TABLE 52

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TABLE 52A PHASE II HOT WAR STOPPER TARGET SHIP MK-16 MOD 6 TORPEDO OBSERVER'S DATA SHEET

162000-191715 PROHIBITED SECTION

DIRP 20N 161-30W C/S/DE OPSHIP

(See Table 1, 9, 10, 13, 14, 52 and Figures 8, 9, 46
for additional information)

TIME	TGT	TGT RANGE	INPUT			RESPONSE										TIME	C/S	TIME	CTR ATK	RPT SENT	RPT RCD
			FM DIRP	FM DIRP	TGT COURSE	TGT SPEED	TGT DEPTH	UNIT (O.S.)	SENSOR	TOTERING	FM SENS	O.S. COURSE	O.S. SPEED	TGT COURSE	TGT DEPTH						
170157	STOPPER	066	74	037	037	8.2	200	S2E-1	SB-XG	264		225	132							OPSHIP	OPSHIP
0203	DROP																				
170257	STOPPER	063	82	037	037	8.2	200	S2E-1	SB-XG	305		225	132								
0403	DROP																				
170800	STOPPER	054	122	037	037	12.0	200	DICK	SONAR	230	7800										
0800	STOPPER	054	122	037	037	12.0	P	HARRY	SONAR	130	7800										
0805	STOPPER	054	123	090	090	12.0	P	DICK	SONAR	250	5900										
0810	2 MK-16	055	123	089	089	46.2	20	DICK	SONAR	269	3400										
0813	DROP																				
0825	STOPPER	055	120	220	220	12.0	PER-3	HARRY	SONAR	078	6300										
0840	2 MK-16	055	117	220	220	46.2	20	HARRY	SONAR	040	3700										
0843	DROP																				
182715	STOPPER	066	103	215	215	8.0	P	DICK	SONAR	026	18,700										
0744	STOPPER	066	100	217	217	10.0	P	DICK	SONAR	280	2,000										
0744	2 MK-16	066	100	217	217	10.0	P	KOCH	SONAR (HARRY)	247	4,200										
0747	DROP																				

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CALCULATION SHEET

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TABLE 53 PHASE II HOT WAR STOPPER/CORK MISSILE ATTACK

OBSERVER'S DATA SHEET

162000-191715 PROHIBITED SECTION

DIRP 20N 161-30W CWS/LE OPSHIP

(SEE TABLES 10, 13, 51, 52, and Figures 9, 46 FOR ADDITIONAL INFORMATION)

TIME	TARGET	INVT				RESPONSE				O.S.	O.S.	O.S.	TCT	TVT	TIME	TIME	CTR	ATR	RPT	SEMT	RPT	REC
		FM DIRP	FM DIRP	FM DIRP	FM DIRP	TGT	TGT	TGT	TGT													
191300	STOPPER 070	59	59	59	59	250	6	SURF	S2E	RADAR	010	13	345	12								
1305	DROP																					
1310	STOPPER 070	60	60	60	60	250	6	SURF	WASP	EL. EM	146		208	13								
1320	2 SAM 059	59	59	59	59	326	800	2000	WASP	RADAR	156	74										
1323	2 SAM 059	59	59	59	59	326	800	1500	WASP	RADAR	156	74										
"	"	"	"	"	"	"	"	"	JOHNSON	RADAR	"	"										
1333	DROP																					
191312	CORK	320	80	320	15	SURF	WASP	253	-	208	13											

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OBSERVER'S DATA SHEET

TABLE 54A PHASE II HOT WAR A3 TARGET AIRCRAFT

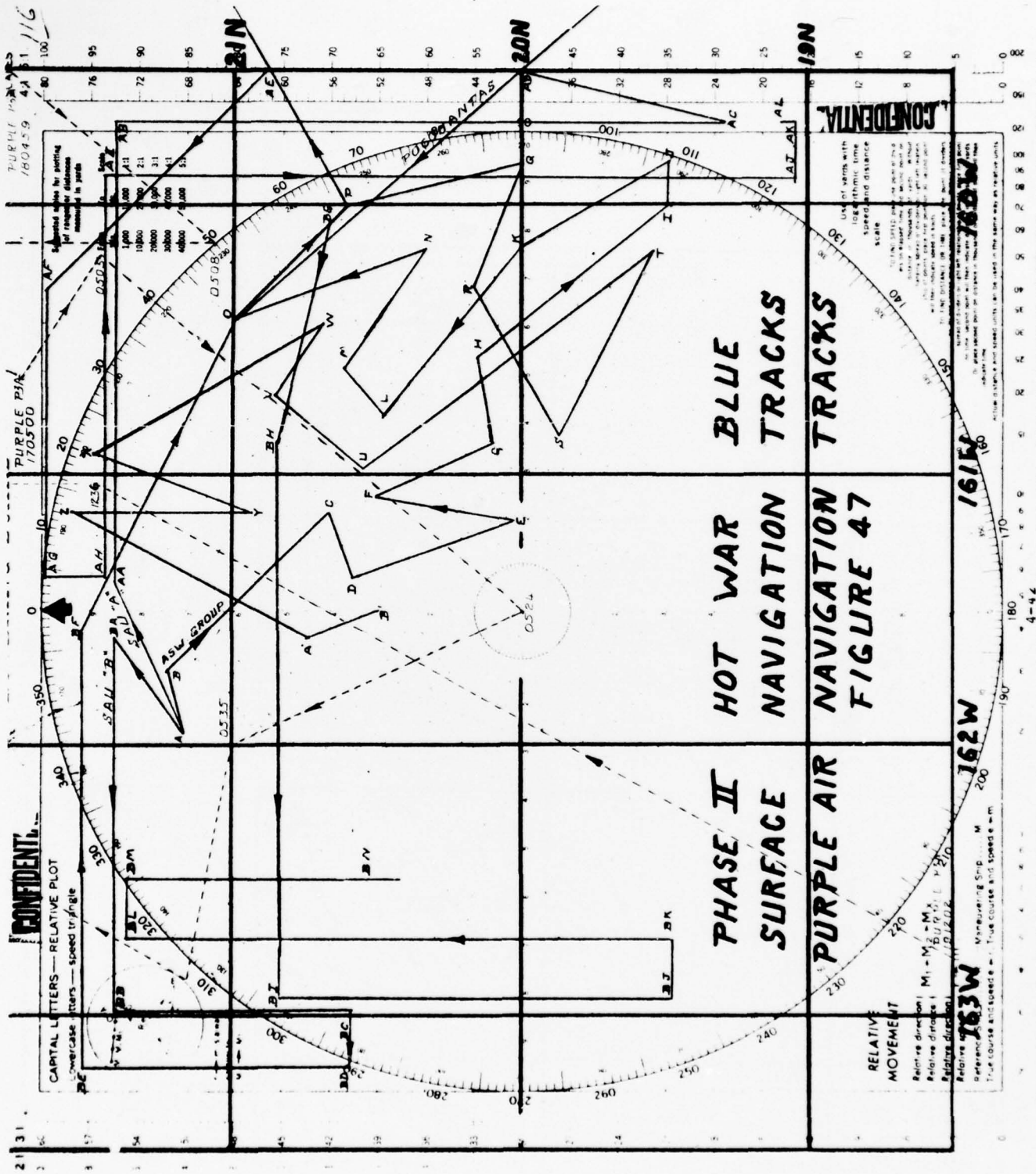
57161-000296
PROHIBITED SECTION

DIHS 40

(SEE TABLES 13, 14, 15, and FIGURES 9, 47 FOR ADDITIONAL INFORMATION)

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4.7 PHASE III WEAPONS DELIVERY (200000 - 220000). -

4.7.1 OBJECTIVE. The Objective of PHASE III is to provide opportunities for BLUE forces to conduct ASW weapons attacks on PURPLE forces. A secondary objective is to exercise the air and surface defense system. In pursuit of this objective PURPLE submarines will force contact at ranges varying from less than 5,000 yards to greater than 16,000 yards. This will provide the BLUE ASW Group with an opportunity to use all assigned ASW weapons at least once. Additionally, at least one PURPLE High Performance Air and Surface Vehicle will approach the BLUE ASW Group to provide an opportunity for BLUE force to use non-ASW weapons.

4.7.2 OPERATING AREA. The operating area will be within, 125 NM of the Data Link Reference Point (DLRP) 20N 161-30W.

4.7.3 NAVIGATION TRACKS. The navigation tracks of CORK, STOPPER, SWIFT and A3 aircraft are depicted in Tables 55, 56, 57, 58 and 59, and Figures 48, 49 and 50 respectively.

4.7.4 COORDINATED ATTACKS. -

4.7.4.1 SUBMARINE ATTACK. At 200140 the Fast Submarine CORK is picked up by VOG's SQS-26 sonar bearing 170T 14,400 yards at a depth of 200 feet. Four minutes later at 0144 the Slow Submarine STOPPER is picked up by VOG's sonar bearing 107T 4,400 yards at periscope depth.

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4.7.4.2 EXPECTED RESULTS. It is expected that VOGUE will pass information on the contacts via Link 11 Data Message to Command and Control (C&CS) equipped ships, and via Link 14 to the remainder of the ASW Group. Upon receipt of the message the Operational Ship should send a Link 11 Control Message directing VOGUE to engage the submarines. Additionally, it is expected that VOGUE will launch an ASROC torpedo at CORK, and a MK 46 Mod 0 torpedo at STOPPER. After the torpedoes are launched, VOGUE should report the results to BLUE units via Link 11 and Link 14.

4.7.4.3 SUB-AIR ATTACK. At 201140 the High Performance Air Vehicle (HPAV) A3 is picked up by JOHNSON's SPS-48 air search radar bearing 057T 122 NM, course 240T, speed 360K, altitude 3,000 feet. Twenty minutes later at 1200 CORK and STOPPER are picked up by KOELSCH's SPS-26 sonar. CORK bears 318T 21,000 yards at a depth of 600 feet. STOPPER bears 343T 7,800 yards 400 feet depth.

4.7.4.4 EXPECTED RESULTS. JOHNSON should inform the ASW Group of the HPAV's position and track via Link 11 and Link 14 Data Message. At the same time JOHNSON should engage the bogey with TERRIER surface-to-air missiles. The Operational Ship should send a Link 11 Control Message to JOHNSON and WASP. WASP may launch two A4 interceptors. Results of the TERRIER missile firings should be reported to the ASW Group by JOHNSON via Link 11 and Link 14.

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WASP should report the air intercept results by Link 11 and Link 14.

The Operational Ship should inform C&CS equipped ships of the submarine contacts by Link 11 Data Message, and the other BLUE ships by Link 14. KOELSCH should engage the submarines and launch a Drone Antisubmarine Helicopter (DASH) at CORK and a MK 37 Mod 1 torpedo at STOPPER. Results of DASH and the torpedo run should be reported by Link 11 and Link 14.

4.7.4.5 SURFACE-SUB-AIR ATTACK. At 210930 SWIFT, a High Performance Surface Vehicle (HPSV), is picked up by KOELSCH's SPS-10 surface search radar bearing 301T 29 miles, course 108T speed 50 knots. At 210940 a High Performance Air Vehicle (HPAV) is picked up by JOHNSON's SPS-48 air search radar bearing 012T 148 miles, course 193T speed 360 knots. At 211000 the Fast Submarine CORK is picked up by VOGEL's SOS-26 sonar bearing 142T 10,000 yards, course 000T speed 14 knots. At the same time the Slow Submarine STOPPER is picked up by KOELSCH's SOS-26 sonar bearing 340T 10,000 yards, course 160T speed 6 knots.

4.7.4.6 EXPECTED RESULTS. The Operational Ship should inform C&CS equipped ships by Link 11, and the remainder of the ASW Group by Link 14, of the position and track of the HPSV SWIFT. KOELSCH should engage the HPSV with own MK-37 Gun Fire Control System, and open fire when guns are locked on the target. Results should be passed by Link 11 and Link 14.

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JOHNSON should inform the ASW Group of the approaching HPAV A3 via Link 11/14, and should engage the bogey with TERRIER Missile Tracking System. Upon receipt of the message the Operational Ship should send a Link 11 Control Message to JOHNSON and WASP. JOHNSON will probably launch TERRIER missiles at the bogey, and WASP A4 interceptors. Results of the missile firing should be reported by JOHNSON by Link 11 and 14. Interceptor results should be reported by WASP over Link 11 and Link 14.

VOGE should inform C&CS equipped ships of the Fast Submarine CORK contact by Link 11 Data Message, and the other ships in the ASW Group by Link 14. The Operational Ship should send a Link 11 Control Message to VOG. VOG should engage the submarine and launch an ASROC depth charge at CORK. Water entry point of ASROC and depth charge results should be reported by VOG over Link 11 and Link 14.

KOELSCH should inform C&CS equipped ships of the Slow Submarine STOPPER contact by Link 11 Data Message, and the other ships by Link 14. KOELSCH should engage the submarine and launch an ASROC depth charge at STOPPER. Water entry point of ASROC and depth charge results should be passed by KOELSCH to C&CS equipped ships and the ASW Group by Link 11 and Link 14 respectively.

4.8 FINEX. FINEX is signaled at 220000.

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U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO, CALIFORNIA 92152

TITEL

PHASE III WEAPONS DELIVERY CORK (FAST SUB) NAVIGATION TRACK

DATE _____

200000 - 220000

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 55

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U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO, CALIFORNIA 92152

PHASE III WEAPONS DELIVERY STOPPER (SLOW SUB) NAVIGATION TRACK

200000 - 220000

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 56

[illegible]

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Sheet of Sheets

DATA SHEET

11ND-NEL-5220/1 (REV. 9-64)

U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO, CALIFORNIA 92152

TITLE

PHASE III WEAPONS DELIVERY USS SWIFT (H.P.S. Veh) NAVIGATION TRACK

DATE _____

200000 - 220000

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 57

[illegible]

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Observers 102

Sheet of Sheets

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DATA SHEET

IND-NEL-5220/1 (REV. 9-64)

U. S. NAVY ELECTRONICS LABORATORY

SAN DIEGO, CALIFORNIA 92152

TITLE

PHASE III WEAPONS DELIVERY A3 (HIGH SPEED A/C) NAVIGATION TRACK

DATE _____

200000 - 220000

DLRP 20N 161-30W

CVS/DE OpShip

TABLE 58

[illegible]

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1100-NEL-3860/17 (REV. 12-63)

CALCULATION SHEET
U. S. NAVY ELECTRONICS LABORATORY, SAN DIEGO, CALIF. 92152

PHASE III WEAPONS DELIVERY PURPLE AIR, SURFACE, AND SUB-SURFACE TARGETS OBSERVER'S DATA SHEET

20000-220000 DLRP 20N 161-30W

CUS/DE - OFFSHIP WASP FORM CENTER

FOR FURTHER INFO SEE TABLES 31, 55, 56, 57, 58 and FIGURES 48, 49, 50.

TABLE 59

INPUT														RESPONSE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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(INFO-NE-3840) (REV. 12-63)

CALCULATION SHEET

U. S. NAVY ELECTRONICS LABORATORY, SAN DIEGO, CALIF. 92132

PHASE III WEAPONS DELIVERY

PURPLE AIR, SURFACE, SUB-SURFACE TARGETS

OSERVER'S DATA SHEET

200000-220000 DLRP 20N 161-30W

CYCLE - OF SHIP WAFS FORM CENTER

FOR FURTHER INFO SEE TABLES AND FIGURES

TABLE 52

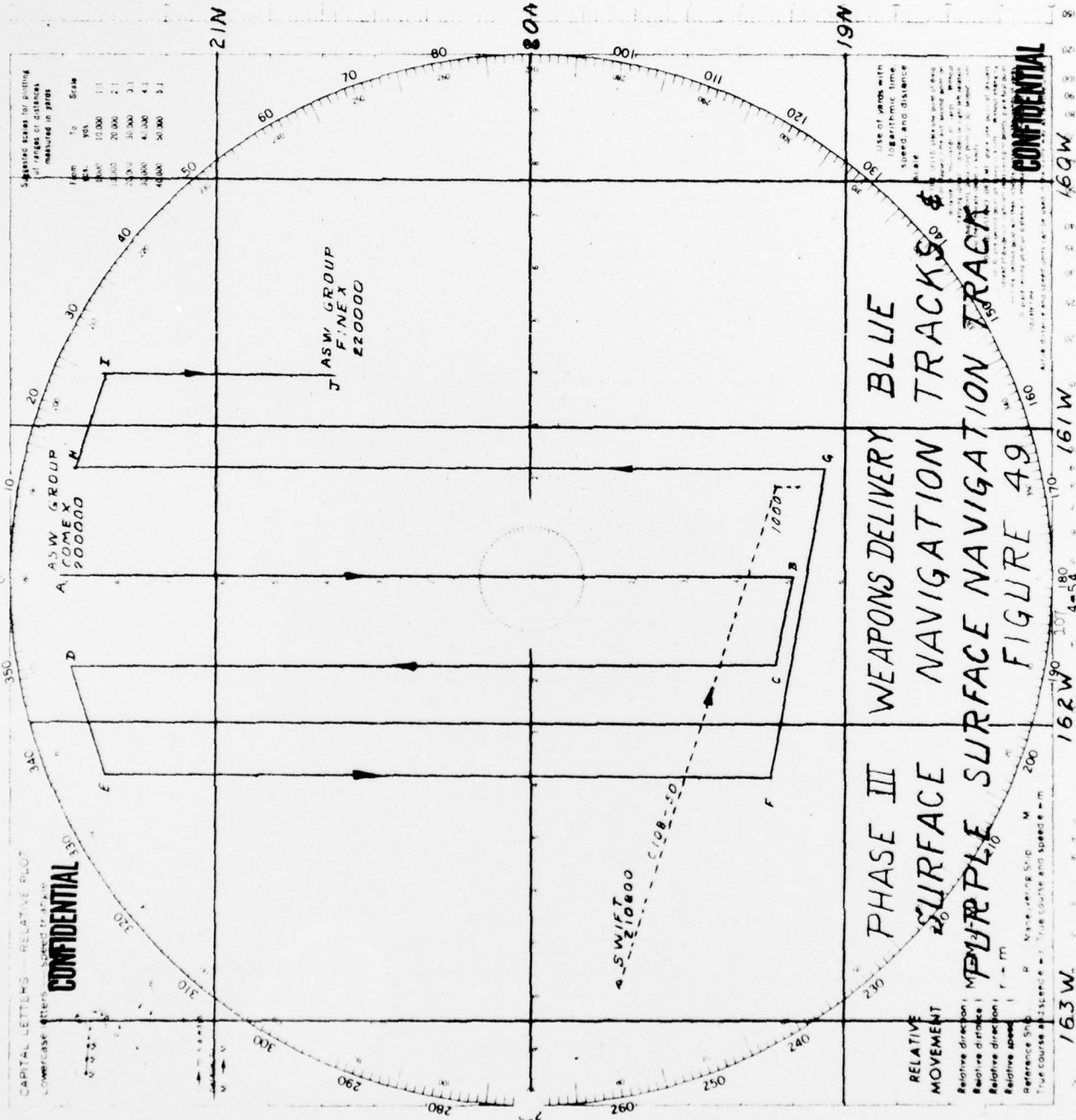
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														ASSND	ENGAGED	FIRED	TARGET				
	SHIP	RNGE FM	COURSE	DEPTH/	DIRECTION	(OWN															
		DLRP	SPEED	ALTITUDE	VELOCITY	SHIP)															
210930	SWIFT	188-40	108-50	SURF	090-10	KOELSCH	161-58	000-14													
1000	SWIFT	160-50	180-50	SURF	090-12	KOELSCH															
1012	SWIFT	DROP																			
210940	AJ	029-105	193-360	20,000A	090-12	JOHNSON	157-58	000-14													
1005	DROP																				
211000	ORX	155-61	000-14	200-D	090-12	VOGE	156-56	000-14													
1100	DROP																				
211000	STOPPER	158-47	160-6	400-D	090-12	KOELSCH	158-52	000-14													
1100	DROP																				

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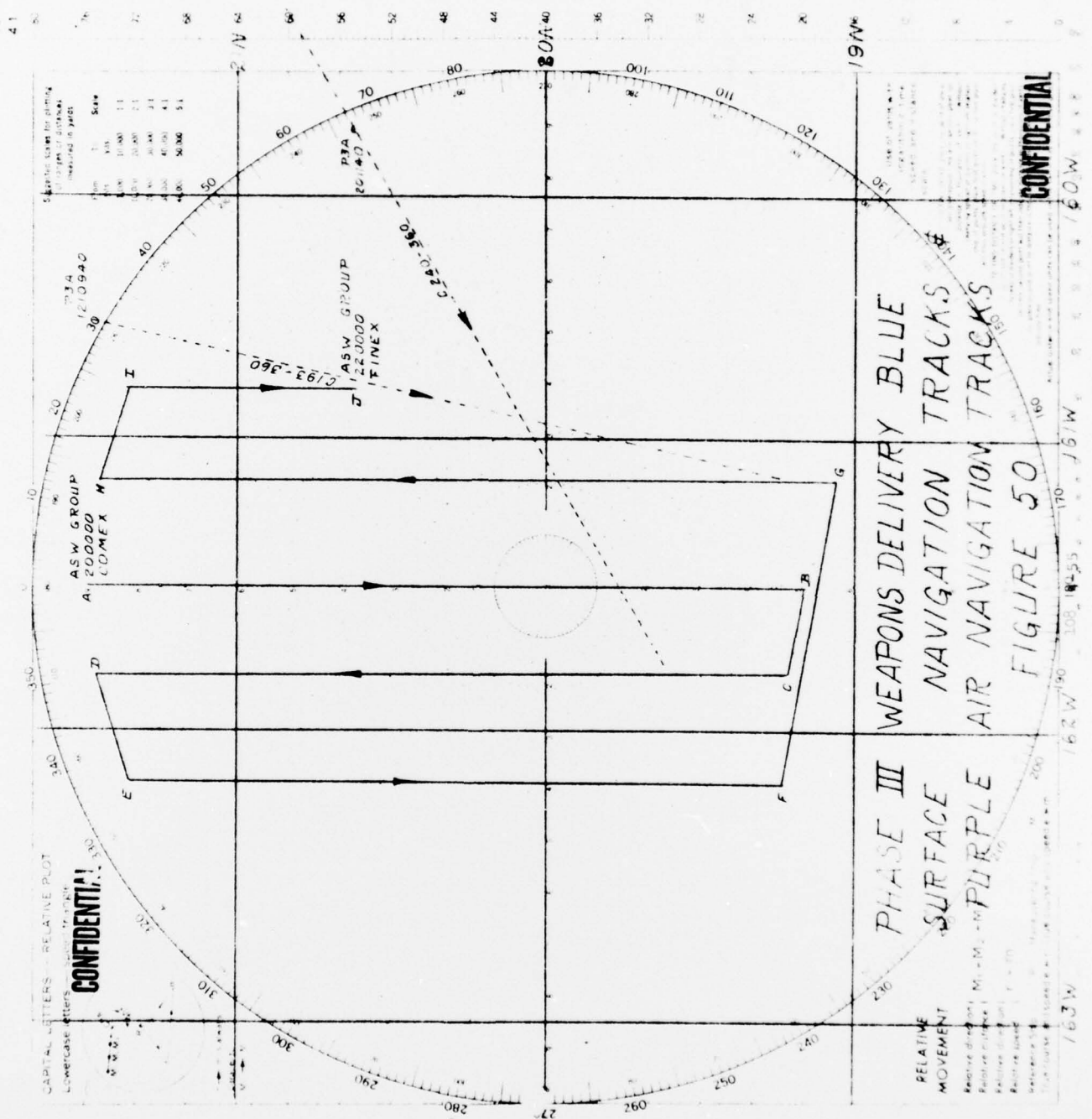
[illegible]

163W 162W 161W 160W

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SECTION V

TEST SCHEDULE

In interest of ASDEC efficiency, it is recommended that periods of inactivity be skipped. Further, more realism in the test will result if events are run sequentially. However, conducting the tests sequentially is not mandatory. This is particularly true of the Weapons Delivery tests which may be conducted at any time.

A test schedule indicating active and inactive times is indicated in Figure 51.

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ENGAGEMENT SCHEDULE

FIGURE 51

DATE & TIME

EVENT

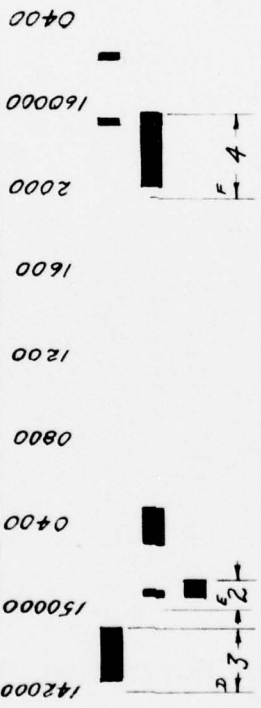
PHASE I

PART I NARROW PASSAGE
PART II BROAD PASSAGE
PART III BOGEY & SKUNK



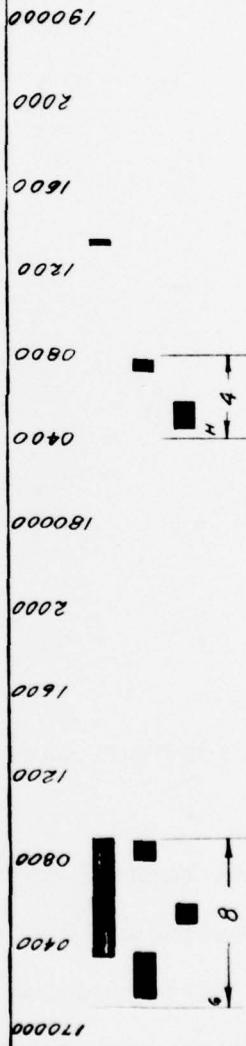
PHASE II

COLD WAR
FAST SUB
SLOW SUB
HI SPD ACFT



PHASE III

WEAPON DELIVERY
FAST SUB
SLOW SUB
HI SPD ACFT
HI SPD SURF



NOMENCLATURE

- A. BOGEY, SKUNK & SONOBUOYS
- B. DD, BOGEY, SKUNK & SONOBUOYS
- C. DD, BOGEY, SKUNK & SONOBUOYS
- D. TRACKING & FAST SUB
- E. SONOBUOY & BOGEY
- F. SONOBUOY & TRANSITING SHIP
- G. SCREEN PENETRATION
- H. REFUELING
- I. MISSILE ATTACK
- J. COORDINATED 2-SUB ATTACK
- K. COORDINATED 2-SUB, ACFT ATTACK
- L. COORDINATED 2-SUB, ACFT, SURF ATK.

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