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TACTICAL PROBLEM II-1934-SR.

COMMENT OF RESEARCH DEPARTMENT

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Naval War College  
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TACTICAL PROBLEM II-1934-Sr.

Comment by Research Department

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TACTICAL PROBLEM II-1934-Sr.

Comment by Research Department

PART I.

Characteristics of the Problem

1. Geographical, weather, etc.

The scene of this problem is the sea area to the north and east of the Island of TRUK. Certain preliminary operations take place late afternoon and night and the board maneuver begins in the early morning with high visibility, unlimited ceiling, light air and smooth sea which continues throughout the maneuver.

2. Character of Forces involved.

Capital ships.

BLUE has 5 BBs, ORANGE has 4 BB and 3 CCs. Taking all factors into consideration, there is little difference in fighting strength of battle lines, but ORANGE has the more difficult battle line problem because part of his strength lies in the CCs. There are range bands in which each side may have a theoretical superiority. At extreme ranges BLUE has the advantage through out-ranging ORANGE.

Air Forces.

BLUE has a slight superiority in number of planes. Each has a carrier, but BLUE has a possibility of using shore facilities at TRUK if the action is fought close enough to that base. BLUE carrier is the RANGER. ORANGE is the AKAGI.

Cruisers.

Both sides approximately equal, but with considerable variation in strength of individual units. ORANGE has larger number of ships. The BLUE 10,000 six-inch cruisers form part of the BLUE force.

Destroyers.

BLUE has superior numbers, superiority in torpedoes carried, inferiority in individual gun armament.

Submarines.

BLUE has superiority in submarines.

There is thus no great discrepancy in the composition of the two forces except for ORANGE battle line strength being partly in CC and BLUE slight superiority in light forces.

3. Statement of Missions.

BLUE: To destroy ORANGE force threatening convoy seven in order to assure the early arrival of convoy seven at MANILA.

ORANGE: To destroy the first considerable enemy force leaving TRUK in order to interrupt BLUE's OAHU-MANILA line of communication.

This resulted in action between these two powerful detachments, with both sides committed to decisive engagement.

4. Main Features of Battle Plans used and Command Organization.

In the battle plans selected to be used on the board, it is interesting to note that each placed the light force of cruisers and destroyers under a single command, and that one battle plan gave five alternative dispositions of light forces, with no specific provision for command in areas. The other indicated a concentration of light forces on own battle line's van. Both sides intended to use light forces initially in defense. Apparently neither plan considered that the difference in the character of BLUE and ORANGE destroyer designs was of much importance.

In the use of air forces there was a divergence of tasks assigned.

BLUE made the enemy battle line the primary objective of attack, but also gave the task of gaining and maintaining control of the air.

ORANGE made the enemy carrier the first objective of attack, but also directed attacks on enemy fighters, spotting planes and battleships. Generally it may be said that neither air plan was concentrated on any particular important objective.

In the use of submarines, there was no plan indicated in either Battle Plan. ORANGE used his submarines outside the battle area for information of BLUE's early movements with secondary objective attack. The disposition of the submarines was actually such as to bring the BLUE submarines into the action and to place ORANGE submarines on the disengaged side of the BLUE Fleet.

As this maneuver covered only the approach and early stages of the main action, the value or lack of value of the ORANGE submarine disposition was not developed.

Both sides knew the approximate bearing of the enemy very early so that approach dispositions could be accurately oriented.

As to the battle lines, ORANGE planned to close the range quickly to less than 17,000 yards to get superiority of gunfire. BLUE planned to obtain initial advantage at long range before closing to decisive ranges.

5. Summary of phases and outstanding situations during the Maneuver.

This maneuver as it developed covered the following phases:

1. Search and contact scouting by both sides 0500 to 0646.

(Diagram 9)

2. Approach of main bodies during which air attacks and submarine attacks occurred. 0646 to 0748.

(Diagram 11)

3. Approach continues with light surface forces in contact and more submarine attacks. 0748 to 0851.

(Diagram 13)

4. Battle line engagement and submarine attacks. 0851 to 0918.

(Diagram 15)

The maneuver ended before the battle lines had closed to decisive ranges.

The following situations and tactical problems developed in this maneuver:

1. Maintenance of plane spot when initial advantage at long range is particularly important.
2. Question of change of mission on initiative of commander of air attack group.
3. Employment of submarines, scouting versus attack.
4. Employment of submarines, maneuvers of battle line to make submarines effective.
5. Objective of initial engagement of light surface forces.
6. Use of smoke to close through unfavorable range bands.
7. Endeavoring to close range quickly against submarine attacks.
8. Use of battle cruisers in Fleet Battle.
9. Defense of carriers.

PART II

EMPLOYMENT OF TYPES

ORANGE Battle Cruisers

1. Tasks assigned showing relation to general plan.

ORANGE battle cruisers were assigned to the Battle Line. Contrary to most usual practice, they were stationed as the rear unit of the battle line with the idea that, since all light forces were to be in the van, they could, due to their speed, interpose against enemy light forces threatening that flank. It did not seem to have been considered that this would remove their gunfire from the enemy battle line. This assignment seems not directly to support the primary idea of closing the range rapidly. It appears to be an attempt to straddle the problem of whether to use the battle cruisers in the battle line or to use them as a detached wing.

2. Estimate accomplishment versus loss and effort.

The action between battle lines was not carried on to a point where the accomplishments or losses of these CCs as a type was brought out. Their successes and losses are covered with the ORANGE battleships as they were part of the battle line. They encountered enemy battleships, submarines, patrol planes and torpedo planes during the engagement. It is not possible with the system in use to evaluate the effectiveness of their anti-aircraft batteries.

PART II

EMPLOYMENT OF TYPES

ORANGE Battleships

1. Tasks assigned showing relation to general plan.

The battleships were as usual made the basis of the plan and used in a concentrated battle line, assisted by the battle cruisers.

2. Estimate of accomplishment versus loss and effort.

Not much was shown along these lines for this type because the action had progressed so little when the maneuver ended. ORANGE capital ships had then inflicted total damage on BLUE capital ships equivalent to 4.8 penetrative 14" hits and had received damage equivalent to 7.1 penetrative 14" hits from BLUE capital ships. This was 5.7% of total life of BLUE capital ships and 7% of total life of ORANGE capital ships. Not much difference, considering that this was the phase in which BLUE planned to establish an initial advantage. While damaging BLUE capital ships 5.7% of their total life, ORANGE capital ships suffered from all causes a loss of 21.6% of their total life. Ratio of damage inflicted on enemy by ORANGE BBs and CCs to total damage suffered by these ships - .22.

In addition to direct opposition to the enemy battleships, ORANGE battleships encountered enemy submarines, patrol planes and torpedo planes. Their anti-aircraft batteries were considered to have reduced the effectiveness of the VP bombing attack by 17%.

The ORANGE battleships were under fire of BLUE battleships for six minutes, while the BLUE battleships were out of range.



PART II

EMPLOYMENT OF TYPES (Continued)

BLUE Battleships

1. Tasks assigned showing relation to general plan.

The BLUE battleships were as usual made the basis of the plan and used in a concentrated battle line.

2. Estimate of accomplishment versus loss and effort.

The BLUE battleships were engaged for only a short time and the maneuver ended before decisive ranges were attained. However, they inflicted total damage on ORANGE capital ships equivalent to 7.1 penetrative 14" hits and sustained total damage from ORANGE capital ships equivalent to 4.8 penetrative 14" hits. This was 7% of total life of ORANGE capital ships and 5.7% of total life of BLUE capital ships. BLUE capital ships while inflicting this damage on ORANGE capital ships suffered from all causes a loss of 15.8% of their total life. Ratio of total damage inflicted on enemy to total damage suffered - .88.

BLUE battleships were directly opposed to an approximately equal battle line consisting of ORANGE battleships and battle cruisers. They were attacked by ORANGE submarine and ORANGE torpedo planes and light dive bombers. They brought ORANGE CAS under effective fire.

In this short engagement representing the initial stages of a naval battle, BLUE was able to attain a slight advantage by out-ranging the enemy capital ships. This advantage lasted six minutes and during that time BLUE BBs inflicted damage equivalent to 3.6 penetrative 14" hits on the ORANGE battle line, about 3.5% of the life of ORANGE battle line.

PART II

EMPLOYMENT OF TYPES (Continued)

ORANGE Heavy Cruisers

1. Tasks assigned and tasks performed showing relation to general plan.

The eight heavy cruisers of ORANGE were assigned in the Battle Plan to the light forces and the Commander of these cruisers was in command of the light forces, which in addition included 3 CLs, 12 DLs and 16 DDs. These light forces were ordered to:

1. Defend van of battle line.
2. When directed, lay smoke to cover battle line as it closes the range.
3. Protect carrier from attack by light forces.
4. When directed attack battle line with torpedoes and mines.

Commander Light Forces issued no formal orders to accomplish the above tasks. During the approach these light forces were concentrated about 10,000 yards ahead of the Battle Line.

On contact with enemy light forces the heavy cruisers advanced against the enemy light forces which retired. The ORANGE heavy cruisers continued this advance until they came under enemy Battle Line gunfire when they retired toward the right flank of their own battle line. They then advanced again, keeping about 18,000 yards from their own battle line. They again came under fire of the enemy battle line, and were finally covered by an aircraft smoke curtain as the game ended.

These heavy cruisers carried out their part of the initial task of defending the van of their own battle line during the approach and that is all they accomplished in regard to the plan for their employment, since the game ended then.

Thus the heavy cruisers were assigned to security, i.e., defense, in the first phase, and to supporting the destroyer attack in the last phase (which was not reached). They were not used for information. General damage to the enemy was undoubtedly implied in connection with their other tasks but was not made an objective.

2. Estimate of accomplishment versus loss and effort.

These eight heavy cruisers defended the van of their own battle line by attacking the enemy light forces encountered and driving them back.

The only apparent reason for closing the enemy light forces was to inflict general damage on the enemy.

These heavy cruisers were engaged with enemy heavy cruisers, light cruisers and one engaged a destroyer leader for a few minutes. The principal opposition was 5 CAs and 3 CLs operating together. The engagement totalled 51 minutes at long ranges. These heavy cruisers inflicted on the enemy a total damage equivalent to 5.92 penetrative 14" hits. They suffered total damage equivalent to 8.1 penetrative 14" hits, of which 2.1 was from BLUE BBs. The ratio of damage inflicted to damage suffered was thus .73. They lost 25% of their life and expended 60% of their ammunition in thus skirmishing with an enemy which was not threatening their battle line, while they had before them the prosecution of their share of a decisive engagement still to carry out.

From the point of view of general damage to the enemy they certainly lost more than they gained.

For 40 minutes from the time they became engaged with enemy light forces, they were able to maintain a position which did not commit their own commander-in-chief to a deployment toward either flank.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE HEAVY CRUISERS

1. Tasks assigned and tasks accomplished showing relation to general plan.

BLUE five heavy cruisers were assigned to the Light Forces task group together with three light cruisers, four destroyer leaders, thirty-seven destroyers, one minelayer, and ten mine sweepers. This force was all under a single command with orders to

1. Defend battle line.
2. When directed attack enemy light forces and battle line.

Previous to the engagement these light forces were ordered to perform tactical scouting enemy main body. This last task was accomplished by the VS planes of these heavy cruisers.

No specific tasks were assigned the various units of the light forces, but the BLUE commander-in-chief had issued five battle dispositions which practically assigned such tasks. However, none of these battle dispositions was used, but a sixth was sent by dispatch.

The heavy cruisers were kept on the fleet axis during the approach. They with the light cruisers withdrew toward their own main body fighting a retiring action with ORANGE cruisers. The BLUE heavy cruisers were then ordered to the BLUE left flank. As this flank was not attacked their only action was that with the ORANGE cruisers. They thus accomplished their part of defending the BLUE Battle Line and were used solely for purposes of security during the phase of the battle which was covered in the maneuver.

2. Estimate of accomplishment versus effort and loss.

In this engagement with the ORANGE cruisers the three BLUE light cruisers assisted the heavy cruisers until the battle disposition was taken up. These heavy cruisers were engaged with ORANGE heavy cruisers, ORANGE light cruisers and destroyer leaders. During these engagements these five heavy cruisers inflicted total damage on the enemy equivalent to 5.83 penetrative 14" hits and they received total damage equivalent to 4.9 penetrative 14" hits. The ratio of damage inflicted to damage received was thus 1.2. They thus performed their tactical task at a loss of 21% of their life and an expenditure of 60% of their ammunition, but inflicted more damage on the enemy than they received while doing so.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE LIGHT CRUISERS

1. Tasks assigned and tasks accomplished showing relation to general plan.

ORANGE had three light cruisers which were, in the permanent organization, squadron leaders of destroyers and so-called destroyer leaders. They with their destroyers and the heavy cruisers constituted a single task group in the ORANGE Battle Plan. In disposing these light forces, the light cruisers were separated from their destroyers and formed a division which acted at first with the heavy cruisers. They advanced against the BLUE cruisers in the first part of the action, but on being concentrated on, withdrew toward their own battle line. Toward the end they were joined by an ORANGE heavy cruiser and were standing by to support an ORANGE destroyer attack.

2. Estimate of accomplishment versus effort and losses.

During the time they operated with the heavy cruisers they could not fire on the enemy as the range was too great for their guns. They, however, received damage from the enemy cruisers equivalent to 2.3 penetrative 14" hits which was 40% of their life. At the end of the maneuver they fired on three divisions of BLUE destroyers which were not attacking and inflicted damage on them equivalent to .06 penetrative 14" hits. Thus the ratio of damage inflicted to damage suffered was .026.

It is evident that their operation with the heavy cruisers was entirely ineffective and merely resulted in their being damaged and so reducing any effectiveness they might have developed later in the battle in conjunction with light force attacks.

These were small light cruisers, one 3,000 tons, two 5,000 tons, armed with 5.5 guns.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE LIGHT CRUISERS

1. Tasks assigned and tasks accomplished showing relation to general plan.

These three light cruisers were of the projected 10,000 ton, well armored ships carrying 12 6" guns. They operated directly with the BLUE heavy cruisers during the early stages of the maneuver. They were ultimately ordered to station on the BLUE right flank where they stood by to defend or support BLUE destroyer attacks. These attacks did not develop within the time of the maneuver.

2. Estimate of accomplishment versus effort and loss.

These cruisers took little part in the engagement. They were opposed at long range to ORANGE CAs and destroyers. They fired at each of these for a few minutes, inflicting damage equivalent to .5 penetrative 14" hits. During the time they operated with the BLUE CAs they suffered from the gunfire of ORANGE CAs damage equivalent to .9 penetrative 14" hits.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE DLs and DDs

ORANGE had three squadrons of destroyer leaders and destroyers. 24 were assigned to the Light Forces, 8 to battle line anti-submarine screen, and 4 to the aircraft carrier.

As to the 12 DL and 12 DD, they maneuvered about, taking station first on one flank, then on the other, and finally wound up directly between the battle lines without having any effect on the engagement. The time for them to come into action was not reached before the end of the maneuver.

The 8 DD assigned to battle line anti-submarine screen were kept busy attempting to depth-charge BLUE submarines. BLUE submarines made six attacks and the ORANGE anti-submarine screen expended all depth charges on 7 of the 8 DDs. They succeeded in sinking 1 submarine and putting another out of action for 6 hours. Two of these submarine attacks occurred after the anti-submarine screen had been assembled.

The average range of BLUE submarine attacks was 2700 yards, which is greater than desired. This was forced on them partly by the presence of the anti-submarine screen. No submarines were sighted while making attacks until after they fired.

On the whole, the anti-submarine screen was not numerous enough to be effective.

The 4 DD assigned to the aircraft carrier took no part in the action except to assist the carrier with anti-aircraft fire against enemy bombing planes, which was of little or no effect. They also picked up pilots forced to land on water after carrier's deck was destroyed. At the end they were joining the destroyer force.



PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE DLs and DDs

BLUE had 4 DLs and 40 DDs.

2 DD were assigned to the aircraft carrier, 1 DL and 4 DD were assigned to the battle line anti-submarine screen.

2 DL and 24 DD were stationed on the left flank.

1 DL and 12 DD were stationed on the right flank.

They took no part in the action except to fire on ORANGE destroyers at extreme range for a few minutes at the end, inflicting total damage of .08 penetrative 14" hits.

Early in the problem, before contact with the enemy, and after an ORANGE submarine attacked a BLUE battleship, two squadrons of these destroyers swept over the area but failed to sight any submarines.

Only one submarine attack was made by ORANGE. The anti-submarine screen took no action.

Toward the end the plane guard and anti-submarine screen joined up, forming a division consisting of 1 DL and 6 DD which took station on the left flank.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE SUBMARINES

ORANGE had 8 submarines. They were sent to stations off TRUK the night before BLUE sortied with orders to gain information of first considerable BLUE force leaving TRUK, scout tactically and attack heavy ships when information had been obtained. Join Fleet action.

There was no specific plan for using them in fleet action.

They were of course unable to join in the Fleet action.

Three of these submarines were stationed close in and five were about 18 miles farther out and about 10 miles apart.

The following information was furnished by these submarines:

0500 number of BLUE destroyers standing to the NE.  
0605 12 BLUE destroyers square 64, course NE.  
0607 5 large ships square 8412, course NE.  
0615 12 DDs square 7512, course NE.  
0616 5 BB square 7329, course NE.  
0609 5 ships bearing 206.  
0644 5 BB with DD screen square 8415, course 135°.  
0824 Position of own submarines.

One ORANGE submarine was able to get in an attack on BLUE battleship and made one torpedo hit. Thereafter the movement of the BLUE fleet left the ORANGE submarines astern and they were unable to make any attacks.

Thus their use for purposes of information precluded their use as a striking force.

Their information was of no use because it was paralleled by much more complete information from aircraft assigned to that duty. For example, within four minutes apart ORANGE OTC received his first definite reports of 5 BLUE BBs, one from a submarine and one from a plane, but the plane report also included a report of the whole enemy disposition.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE SUBMARINES

BLUE had 11 submarines. They were given a purely offensive task - to attack enemy at every favorable opportunity. They were disposed with reference to the BLUE battle line so that they were bound to have such opportunities, since the approximate position of the ORANGE fleet was known. They were on a line normal to the expected bearing of the enemy from BLUE at a distance of 25 miles and the submarines were about 2 miles apart. This position was maintained until they made contact with the enemy by maneuver of the BLUE fleet, in spite of their being forced to submerge at times.

Of these 11 submarines, only 4 were able to attack. Of these four, 2 attacked twice. A total of 5 hits was made. Thus these 11 submarines inflicted a total damage on the enemy equivalent to 12 penetrative 14" hits, under-water damage. They lost 1 submarine sunk and 1 disabled 6 hours by depth charges.

These attacks were delivered while the battle lines were closing from 40,000 to 22,000 yards. The ORANGE battle line was prevented from carrying out the battle plan of "closing quickly to 17,000 yards" because it made a number of radical changes of course which reduced its distance made good toward BLUE by something like 40%.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE BATTLE LINE PLANES

ORANGE Battle Line planes (14 VO) were launched for spotting beginning at 0754. ORANGE Battle Line first opened fire at 0857, so these planes expended over an hour of fuel before being employed. ORANGE Battle Line had been subjected to an air torpedo attack and a small bombing attack before launching these planes, but was not again attacked by air before opening fire.

These planes maintained plane spot for ORANGE throughout the rest of the game. None were lost.

BLUE BATTLE LINE PLANES

BLUE Battle Line planes (15 VO) were launched beginning at 0812, the BB first opened fire at 0836. The first planes off were in the air 24 minutes before being employed.

These planes maintained plane spot for BLUE throughout the rest of the game. None were lost.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE CRUISER PLANES

There were 18 VS carried by the ORANGE cruisers.

10 of these planes, assisted by 1 carrier VS, were used in attempting to repel a torpedo plane attack on the ORANGE battle line. They were all lost in the air combat, but shot down 5 BLUE VT. The BLUE attacking force consisted of 28 VT.

The remaining 8 VS were launched at 0754 to spot for 8 ORANGE CA. These CA opened fire at 0803, but these planes were not able to establish plane spot until 0812. They were not launched in time. They maintained plane spot for the CA through the rest of the game and lost no more planes.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE CRUISER PLANES

BLUE cruisers carried 32 VS planes.

Crudiv 9 (3 large CLs) launched 2 planes each (6 VS) at 0619 for tactical scouting. They reported enemy main body at 0652 and thereafter these planes kept touch with the enemy, reporting changes of course, etc. until 0821 when they started for TRUK to re-service. Arrived at 0847 and remained there during the rest of the game. They each carried 2 116# bombs during this operation. They made no use of them.

At 0748 the remaining planes on the BLUE cruisers - 26 VS each carrying 2 116# bombs - were launched to spot for the cruisers. They maintained plane spot for the rest of the game. They made no use of their bombs. 26 planes were used to spot for 8 ships.

PART II

EMPLOYMENT OF TYPES (Cont'd)

ORANGE AIRCRAFT CARRIER

The ORANGE carrier was assigned in the Battle Plan a number of tasks:

1. Destroy enemy carrier's flight deck before planes can be launched.
2. Attack fighting planes.
3. Destroy planes observing enemy battle line gunfire.
4. Attack enemy battleships with bombs and torpedoes.  
Coordinate torpedo attack with that of our light forces.

In the operation order the carrier was part of the scouting force, having the task of searching area within 132 miles of TRUK, reconnaissance of TRUK harbor and approaches, and tactical scouting after discovery. The carrier furnished the whole air part of this, so that it must be considered as part of the battle task in so far as it took planes away from the other battle tasks.

The carrier took station about 30 miles to the NE of the ORANGE main body.

These planes were organized into two task groups: a scouting group of 9 VS and 6 VF to carry out the scouting called for in the Operation Order and an attack group of 24 VT, 16 VB, 10 VF and 7 VS.

Thus all the allotted tasks were provided for except that no attempt was made to attack the BLUE spotting planes, and this part of the order seems to have been ignored.

The ORANGE carrier's position did not protect her and she had no other protection except the 4 DDs. She was located and reported at 0625 by a BLUE plane. She was bombed at 0718 and her flight deck wrecked. She then closed ORANGE battle line with her destroyers to join the ORANGE light forces.

The scouting group had two tasks: 7 VS were to make the very extensive search called for and 2 VS with 6 VF were to investigate the harbor at TRUK. These scouts accomplished their tasks, except that they did not find the BLUE CV. As it happened, the 6 VF were not needed to protect the group which went to TRUK and while returning discovered and reported the BLUE carrier, but were shot down in fight with 9 BLUE VF, BLUE losing 5 VF in this fight.

The attack group divided its attack on BLUE battleships and BLUE carrier.

24 VT, 9 VS and 7 VF attacked the battleships, using smoke curtain and strafing attack in conjunction with torpedo plane attack. This attack produced 3 torpedo hits, 1.8 penetrative 14" hits under-water damage on each of 3 battleships. The opposition which this attack met was 9 VF and anti-aircraft fire. ORANGE lost 9 VT, 4 VS and 7 VF. This attack was not coordinated with light force attack as ordered.

16 VB and 10 VF attacked the BLUE carrier with bombs, inflicting 1.55 penetrative 14" hits above water and 1.68 under water, destroying the flight deck. This occurred at 0649 and BLUE had no planes on deck. The opposition to this attack was 4 VF and anti-aircraft fire. ORANGE lost 3 VF and 5 VB. BLUE lost the 4 VF. This attack failed to catch BLUE planes on deck because it was held up until 0640 by the failure of the ORANGE scouting planes to locate the BLUE carrier. It was located by the 6 VF returning from TRUK.

The ORANGE planes surviving these attacks were used as follows:

The VTs (without torpedoes) kept touch with enemy main body (tactical scouting).

The VBs formed anti-submarine patrol ahead of own main body.

The VS collected over main body to oppose air attacks.



These were of considerable help in reducing the effectiveness of attacks by BLUE.

These planes all had to land in the water on running out of gas.

The ORANGE CV failed to carry out all the tasks assigned to her. She accomplished some of them partially, but none completely.

The scouting flights located the enemy forces but failed to find the BLUE CV promptly.

The BLUE CV's flight deck was destroyed, but not before her planes took off.

One task which was of great importance was not attempted, that is, the destruction of enemy spotters.

Finally, the CV lost all her planes and suffered the destruction of her flight deck and some additional damage in accomplishing these tasks.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE AIRCRAFT CARRIER

The BLUE aircraft carrier, the RANGER, was assigned the following tasks:

1. Sortie in advance of submarines (before daylight).
2. Search for enemy within radius of 150 miles from a designated position.
3. Conduct aerial anti-submarine patrol in advance of the fleet.

and in the Battle Plan

4. Gain and maintain control of the air.
5. When directed attack enemy light forces and battle line.

It is to be noted that there is no mention of attacking or protecting spotters, although BLUE's battle plan makes an important element the gaining of an initial advantage at extreme range. Perhaps this is intended to be covered by gaining and maintaining control of the air.

The RANGER used 15 VS to conduct the search, 3 VS and 4 VJ for the anti-submarine patrol, 9 VF to protect battle line, and 9 VF to protect carrier, 18 VB armed with 1000# bombs as an attack force, and 10 VT armed with torpedoes with 8 VT fitted as smokers as a second attack force. These all get off just before the RANGER is bombed by ORANGE aircraft.

The position of the RANGER was 25 miles in advance of the BLUE Fleet toward the enemy. She was missed by the first ORANGE scouting flight, and the fact that she got her planes off before being attacked was due to this.

The search was effective picking up and reporting ORANGE destroyers at 0559, cruisers and seven large ships at 0609, enemy disposition at 0619, submarine planes, etc. and at 0629 the ORANGE

carrier. These planes each carried 2 116# bombs. 10 of them before returning to TRUK attacked ORANGE cruisers and destroyers, doing minor damage but losing 4 planes from anti-aircraft gunfire.

The anti-submarine patrol sighted several ORANGE submarines which enabled the BLUE fleet to avoid all but one of them. This was partly due to the ORANGE submarines being in a poor initial position which forced them to proceed on the surface to attain better positions.

The 9 VF protecting the BLUE battle line try to oppose an ORANGE attack consisting of 24 VT, 9 VS and 7 VF. BLUE loses the 9 VF, but they shoot down 7 VF, and after the attack shoot down 2 VT.

The 9 VF protecting the BLUE carrier engage 6 ORANGE VF which are approaching the carrier. They shoot down the ORANGE VF, but lose 5 VF in doing so. The remaining 4 BLUE VF have to oppose an ORANGE attack consisting of 16 VB and 10 VF. They are all lost, but shoot down 3 ORANGE VF.

It did not appear to be worth while to use VF in detachments in this manner as they were in both cases up against overwhelming numbers and had little effect on the results of the attacks.

The 18 VB attack group bombed the ORANGE CV, opposed only by her anti-aircraft gunfire. They lost 7 VB and inflicted above-water damage 3.45 penetrative 14" hits and under-water damage 1.86 penetrative 14" hits, destroying the flight deck and causing the ultimate loss of all ORANGE carrier planes, as they had no place to land when their fuel was exhausted.

The 18 VT attack group attacked the ORANGE battle line, using 8 VT as smokers. They were opposed by 11 ORANGE VS and anti-aircraft gunfire. They shoot down the ORANGE VS and make one torpedo hit on an ORANGE BB. They lose 3 VT carrying torpedoes and 2 VT smokers.

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After these attacks the BLUE VBs and VTs proceed to TRUK for re-servicing, as the RANGER has had her flight deck wrecked.

The value of even meager facilities on shore near the scene of battle is evident.

The BLUE carrier accomplished her tasks to a satisfactory degree except "Gaining and maintaining control of the air," which was not accomplished within the period of the game, though it would be when all ORANGE planes ran out of fuel.

PART II

EMPLOYMENT OF TYPES (Cont'd)

BLUE PATROL PLANES

At TRUK BLUE had 6 VPs. They were a separate task group and were given the task of bombing enemy battle line and carrier. They left TRUK at 0638 to bomb the ORANGE battle line or carrier armed with 2 1000# bombs each. They attacked the ORANGE battle line at 0735. They were opposed by 5 ORANGE VS and anti-aircraft fire. They shot down the 5 ORANGE VS and inflicted on 3 ORANGE BBs a total damage of .46 penetrative 14" hits above-water and .41 penetrative 14" hits under water. BLUE lost 2 VP shot down by ORANGE VS and 2 VP shot down by anti-aircraft gunfire.

This attack does not seem to have been worth while. This largely because of the air opposition encountered which reduced the attacking force 33% before the attack. However, it is difficult to evaluate because of the problematical value of destroying the 5 ORANGE VS.

PART III

Summary of relation between plans and actual operations.

The fundamental of the ORANGE battle plan was to mass all his light forces in the van to insure freedom of maneuver and thus be able to use his superior battle line speed to close the range rapidly to a favorable range band.

His principal secondary measures to assist this plan were to deliver air attacks on the enemy battle line, to use protective smoke and to attack enemy spotting planes while passing through unfavorable range bands. Unfortunately, in regard to air operations, so many subsidiary tasks were assigned the air force that the importance of attacking enemy spotters was not made clear and was neglected by the ORANGE air force. It may well be that attacks on enemy spotters was considered too difficult a task because of the difficulty of locating them and bringing a superior force against them.

The task of laying smoke in the above plan was given to the commander light forces and was to be timed by orders of the O.T.C.

As the maneuver actually came out, the light forces were sufficiently successful in keeping BLUE light forces out of a directly threatening position. It happened that BLUE had decided also to use his light forces defensively, so this was easy.

As to the smoke, ORANGE changed his plan and used aircraft instead of light surface forces. It was evident that repeated smoke screens would have been required to accomplish the purpose stated in RED's plan.

But the main idea of closing rapidly was frustrated by the attacks on ORANGE by several BLUE submarines. ORANGE gave up the direct advance in attempts to avoid submarine damage.

In the situation which actually existed, ORANGE would have suffered less damage from BLUE submarines if he had carried out his original intention of closing rapidly.

The BLUE battle plan was based on the idea of getting an initial advantage at long range by long range gunfire, air attack and submarine attack. BLUE could then afford to close the range.

All of the main elements of this plan were carried out but were assisted by chance. When ORANGE submarines were reported, BLUE changed course to avoid them and thereby kept BLUE submarines properly advanced from his own battle line, which he had previously failed to do.

PART V.

Outstanding facts shown in this Problem.

1. The special characteristics of CCs were not used. They were so placed that in the one attempt to make use of their speed the unfavorable initial position prevented it from being effective.
2. Neither side attacked the other's battle line spotters, although both plans made the long range action an important element.
3. Two bombing flights, one with VF and VS escort, passed in sight of each other on attack missions and both proceeded without taking action against the other.
4. Cruisers were brought under capital ship gunfire and seriously damaged because of the interruption of battle line gun engagement by smoke.
5. Submarines and aircraft duplicated scouting - same place, same time. As a result, use of submarines for attack was sacrificed to no advantage.
6. Submarine effectiveness was increased by movements of own battle line during the approach.
7. With both light forces assigned defensive roles, severe engagements took place between them.
8. The successful use of smoke to protect battle line while closing through unfavorable range band was not demonstrated.
9. Submarine attacks prevented enemy closing quickly through range band unfavorable to the enemy.
10. Both carriers were close to the battle area with practically no protection. Both were severely damaged by air attack and both lost the use of flight decks.
11. Both carriers launched attack flights before the objective had been located. Attack flights found their objectives promptly.



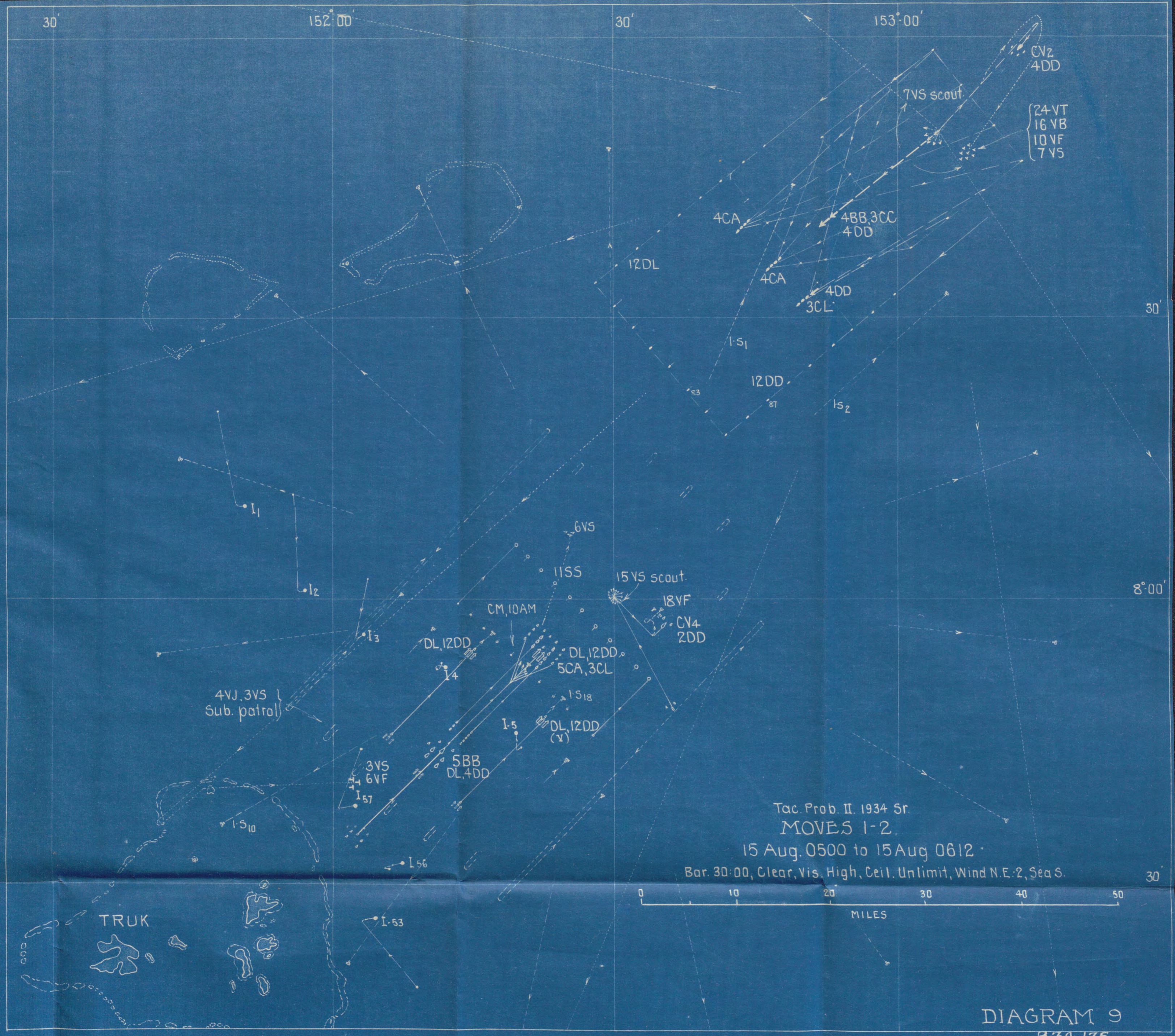
12. Cruisers never used their maximum speeds. 30 knots were used occasionally for a few minutes at a time. Any speed within two or three knots of 30 knots would have made no appreciable difference in the positions attained when 30 knots were used.
13. Small detachments of VFs were not effective defense against major air attacks.

PART VI

CONCLUSIONS DRAWN

1. Units of mixed types are generally weaker than their theoretical fighting strength indicates. This applies to battle lines made up of battleships and battle cruisers, as well as to cruiser engagements where heavy cruisers and light cruisers have been used together in the same formation. If the ships with light protection are concentrated on and quickly wiped out, the reduction in damage to the heavier type from being under lighter gunfire does not compensate for this loss.
2. There is need for a careful estimate of information which should be obtained and a careful plan for obtaining it. This would seem to be a case where economy of force might well be a guiding principle. It always costs something to get information. In this problem ORANGE deprived himself of the offensive use of his submarines in order to get information. He got the same information from his air scouts plus much more than the submarines furnished. If there was reason to doubt the ability of the air craft to get this information, he might have been justified in this, but there appears to be no reason for him to have had this doubt in this problem.
3. Where the nature of a plan is primarily dependent on the time element, the execution of the plan cannot be postponed without disastrous results. In this problem ORANGE was under the necessity of closing through unfavorable range bands quickly. Hence, when he met the BLUE submarine attacks he had no choice but between pushing on, chancing what damage he would receive, and changing his plan. To delay, spoiled his plan. It seems impossible to change the plan at that stage, so the only logical thing was to pursue it with inflexible determination.

4. Where enemy objectives are in close proximity and adequate scouting forces are in the air, it is practicable to launch air attack formations before the objective has been located.
5. In the air, inadequate defense forces would be more effectively employed on the offense. Nevertheless, a force adequate to prevent strafing may greatly augment anti-aircraft fire by protecting the anti-aircraft battery.
6. Carriers near the battle line are almost sure to suffer serious damage.
7. Light forces which venture within range of enemy capital ships while protected by the gunfire of their own battle line are likely to lose that protection very suddenly by the interruption of battle line gunfire from smoke or other cause. An O.T.C. who orders smoke for this purpose should understand how it will affect his own light forces, and how he can use it against enemy light forces.



Tac. Prob. II. 1934 Sr.  
MOVES 1-2.  
15 Aug. 0500 to 15 Aug 0612  
Bar. 30.00, Clear, Vis. High, Ceil. Unlimit, Wind N.E.:2, Sea S.



DIAGRAM 9  
B34-175

152°00'

30'

153°00'

18VB attack CV2  
7VB lost  
CV2 deck destroyed

CV2  
4DD

18VT attack BBs  
9VT Blue } lost  
11VS Orange }  
BBz hit by IT.

11VB

6VP attack BBs  
4VP Blue } lost  
5VS Orange }

6VS

6VS

4BB, 3CC  
8DD

11VB

8CA

2VP

4VT  
4VS

3CL  
12DL, 12DD

VS

11SS

30'

1-1

VS

1-2

9VT

5CA, 3CL  
DL, 12DD

8°00'

1-3

CM, 10AM

DL, 12DD

16VB, 10VF attack CV4  
4VF Blue } lost  
3VF, 5VB Orange }  
CV4 deck destroyed

DL, 12DD

24VT, 9VS, 7VF attack BBs  
9VF Blue } lost  
9VT, 4VS, 7VF Orange }  
BB 37, 39, 41 each hit by IT.

1-5

5BB  
DL, 4DD

BB 42 hit by IT.

CV4  
2DD

Tac. Prob II, 1934 Sr.  
MOVES 5-6

15 Aug 0648 to 15 Aug. 0748

Bar. 30.00, Clear, Vis. High, Ceil. Unlimit, Wind. N.E.-2, Sea S.



1-6

3VS  
11VT

1-53

DIAGRAM II

10'

20'

152°-30'

40'

CV2, 4DD

Tac. Prob II 1934 Sr.

MOVES 10-15

15 Aug. 0812 to 15 Aug 0833

Bar. 30.00, Clear, Vis. High, Ceil, Unlimit, Wind N.E. 2, Sea S.

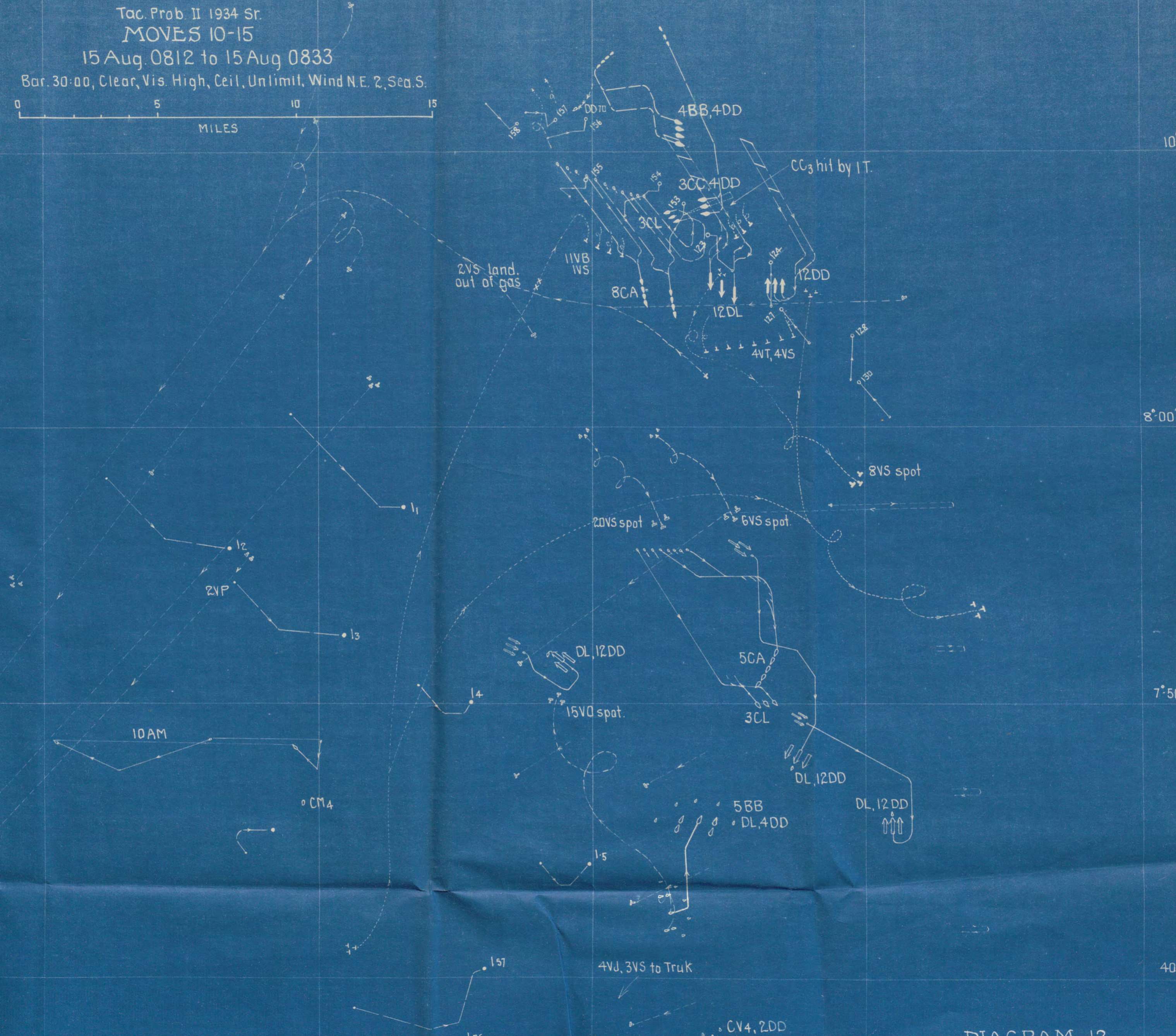


DIAGRAM 13

B34-179

Tac. Prob. II, 1934 Sr.  
**MOVES 20-25**  
 15 Aug. 0845 to 15 Aug 0903  
 Bar. 30:00, Clear. Vis. High, Ceil. Unlimit, Wind N.E.-2, Sea S.

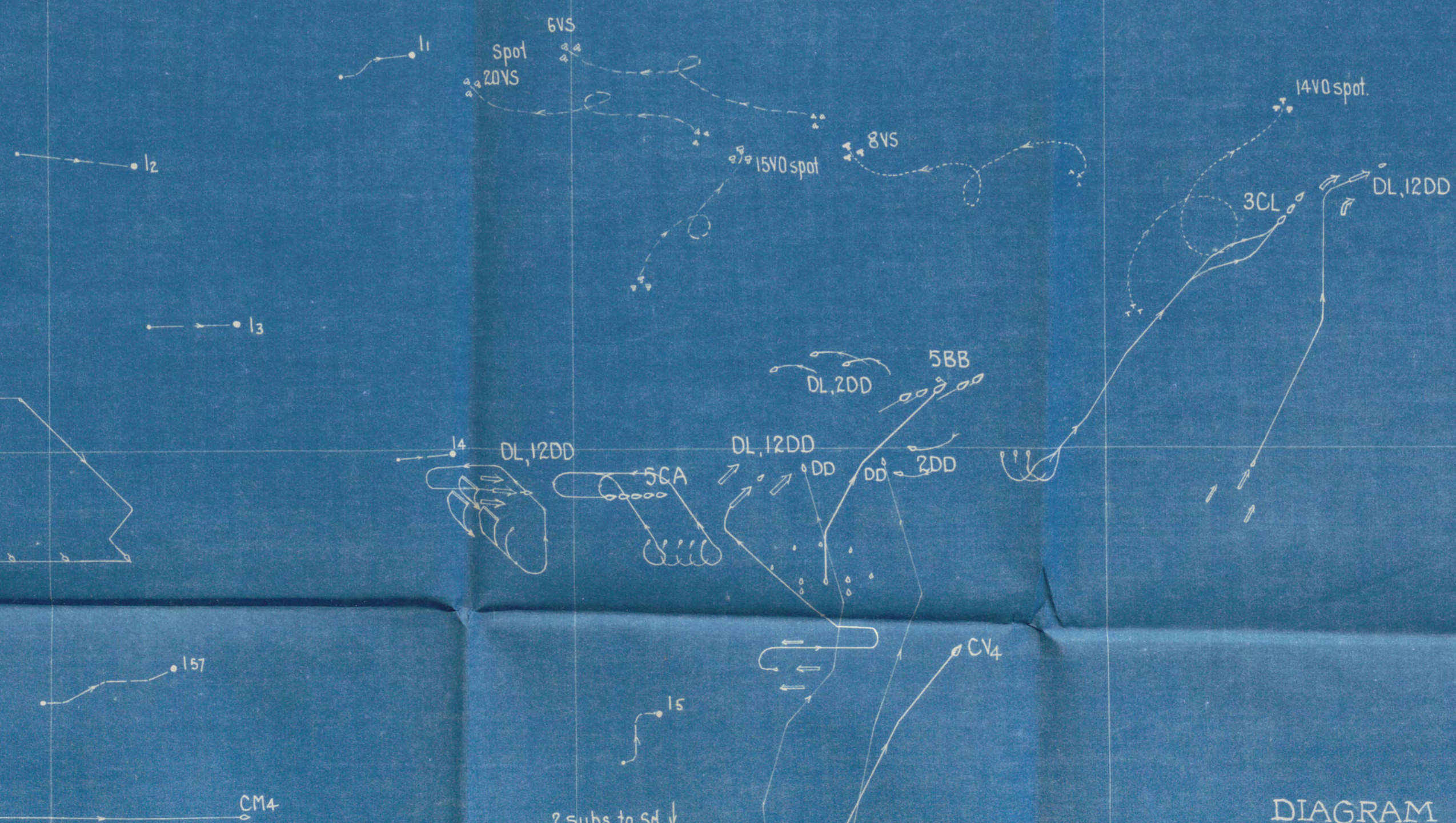
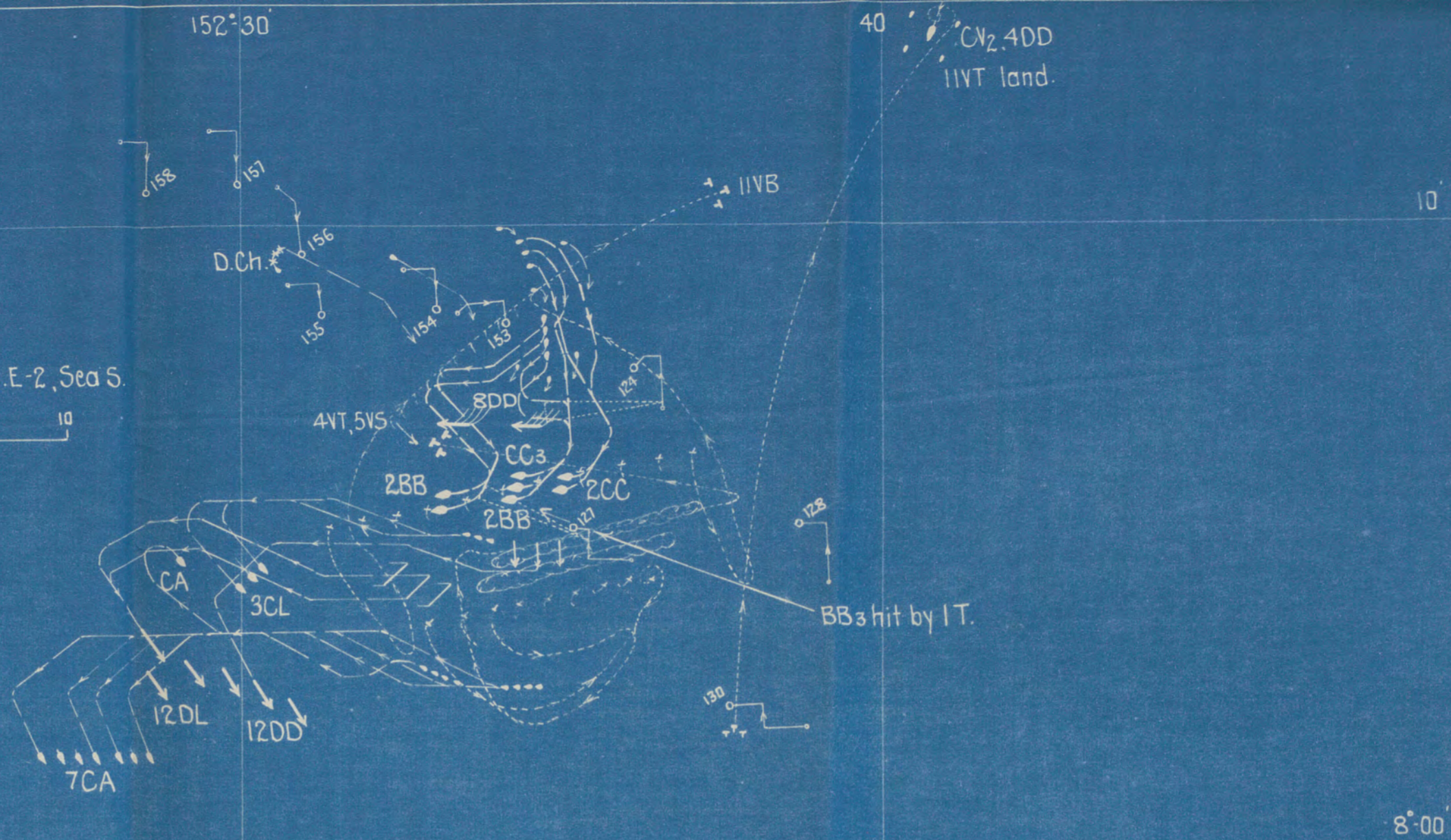
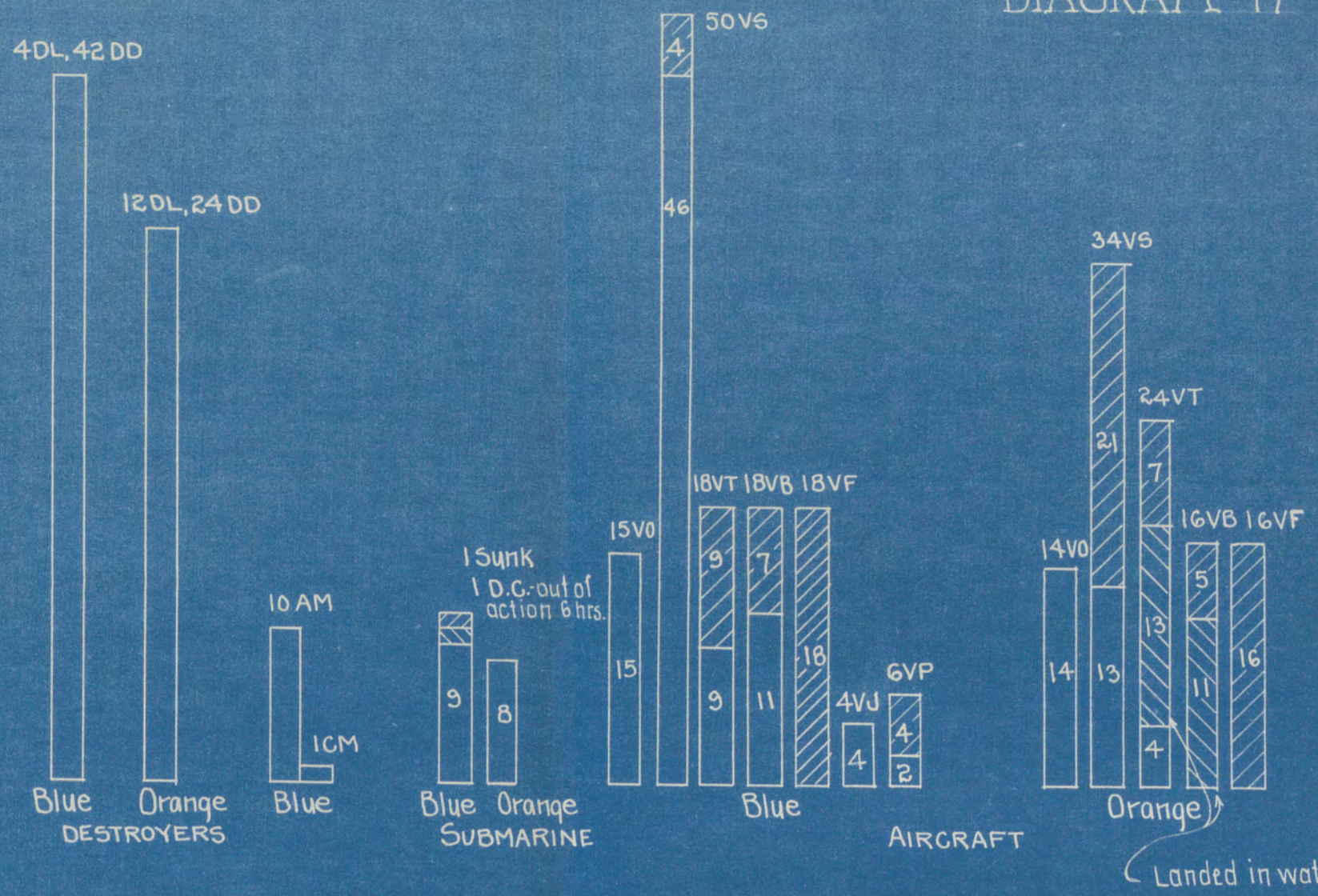
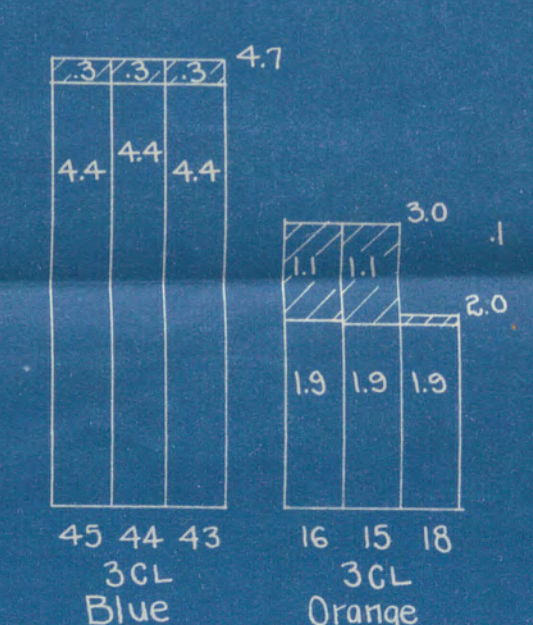
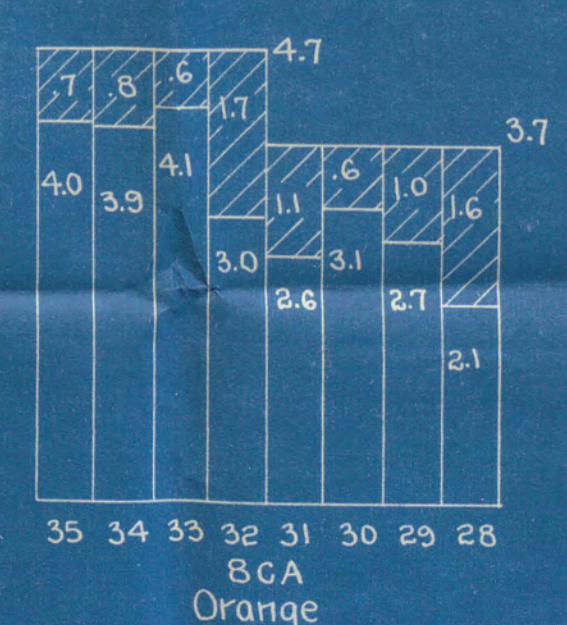
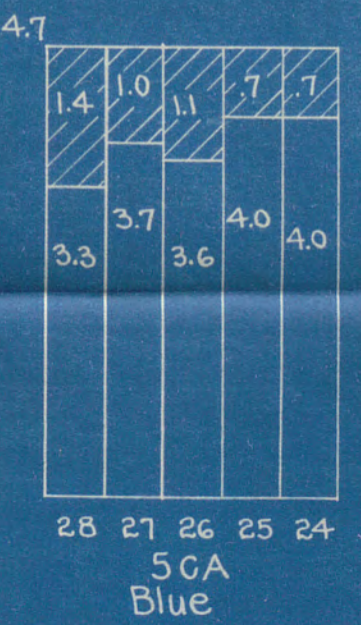
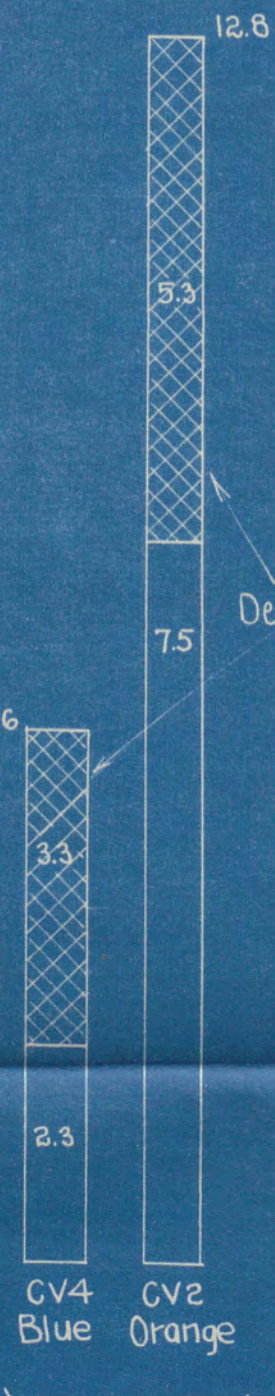
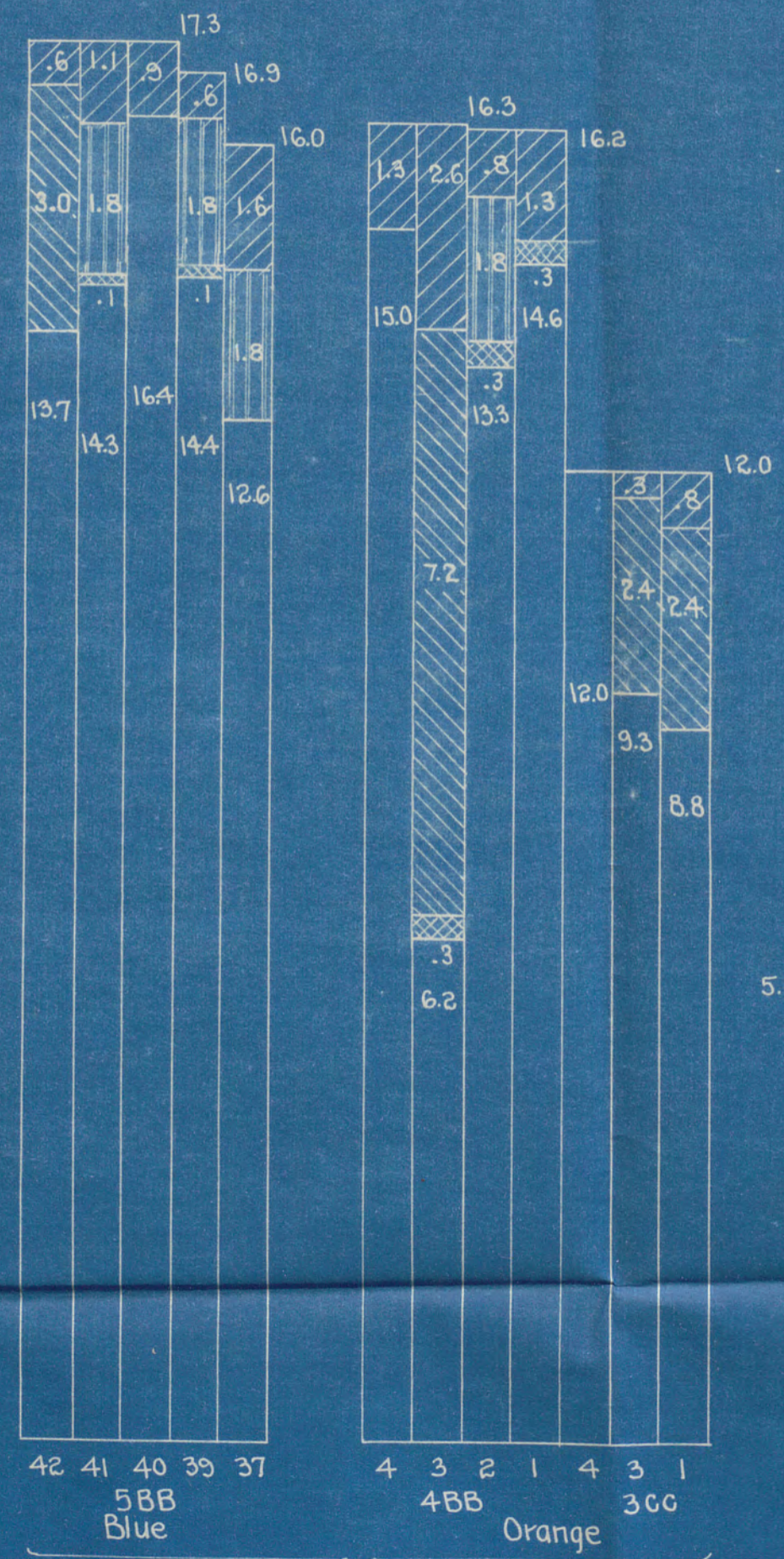
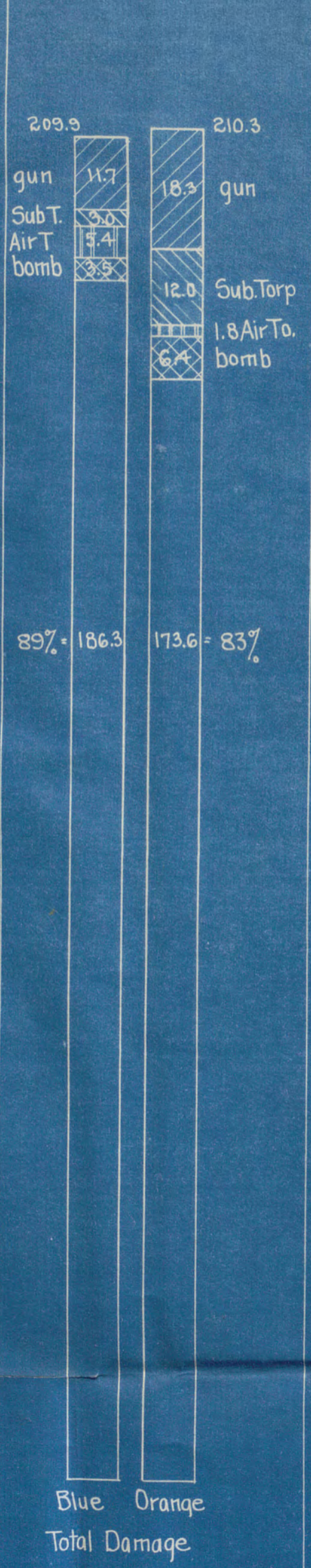


DIAGRAM 15  
 B34-181



Tac. Prob. II 1934 Sr.  
DAMAGE SUSTAINED & LIFE REMAINING  
0915 15 Aug. (End of move 29)

CAPITAL SHIPS

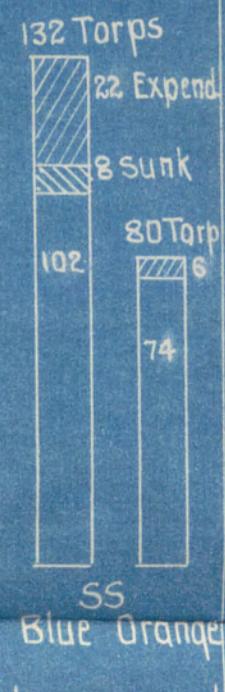
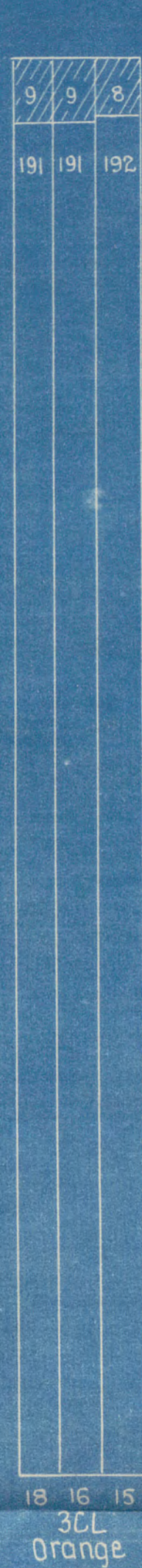
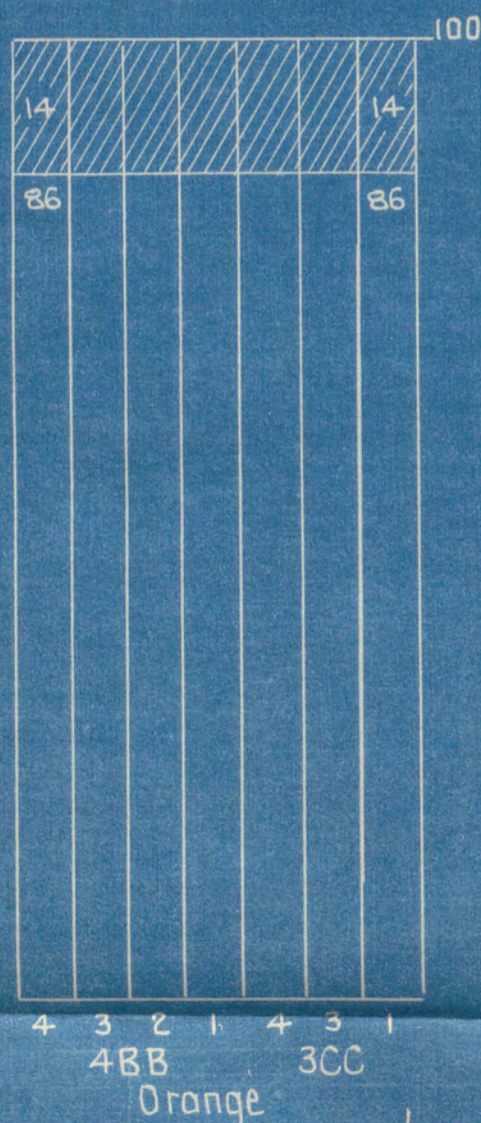
CARRIERS

HEAVY CRUISERS

LIGHT CRUISERS



Tac. Prob. II-1934 Sr.  
 AMMUNITION EXPENDITURE



BLUE			ORANGE			
Unit	% Damage	Remaining Speed	TYPE	Unit	% Damage	Remaining Speed
BB42	21	17.4	BB	BB 4	8	23.0
BB 41	18	19.0		BB 3	62	12.7
BB 40	5	21.0		BB 2	18	19.8
BB 39	15	19.0		BB 1	10	22.3
BB 37	21	18.5				
			CC	CC 4	0	26.
				CC 3	22	20.8
				CC 1	27	22.0
CV 4	58	20	CV	CV 2	41	24.2
CA 28	31	29.3	CA	CA 35	16	33.0
27	21	32.5		34	17	33.0
26	25	32.5		33	12	33.0
25	15	32.5		32	36	29.7
24	15	32.5		31	30	29.7
				30	16	33.0
				29	27	33.0
				28	44	29.7
CL 45	6	32.5	CL	CL-18	5	33.0
44	6	32.5		16	36	29.7
43	6	32.5		15	36	29.7
4DL, 42DD		full	DL, DD	12DL, 24DD		full
11SS	1 sunk	full	SS	8I.	None	full

Tac. Prob. II-1934 Sr.  
 CONDITION OF THE FLEETS 0918 15 Aug.

B.34-185

DIAGRAM 19