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Joint Intelligence Center Pacific Ocean Areas

Translation of Captured Japanese Document
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BATTLE LESSONS LEARNED IN THE
GREATER EAST ASIA WAR
(TORPEDOES), Volume VI

JICPOA

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Translator's Foreword

A translation of /Japanese Navy/ Torpedo School Secret Publication: Battle Lessons Learned in the Greater East Asia War (Torpedoes), Volume VI, Annexed Volume #1 (Torpedo Boats), dated 5 November 1943, will be disseminated as JICPOA Item #5782-A.

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MILITARY - VERY SECRET (CHUNOKUHI)

(TN: Cover)

Torpedo School
Secret Battle Lessons--
Volume 6

(TN: "24th AirFlot" written in pencil)

Copy 95 of 300

5 November 1943

**BATTLE LESSONS LEARNED IN THE
GREATER EAST ASIA WAR
(TORPEDOES), Volume VI**

(From April 1943 to September 1943)

To be returned to Torpedo
School when of no further
value.

Battle Lessons Investigation
Committee, Torpedo Sub-committee

(TN: Inside cover)

Preface

This volume of Battle Lessons has as its subject the night battles fought from April to September 1943, and is based on detailed battle reports from the various operations and on reports from the Expeditionary Investigation Committee. An effort has been made to present items of recognized importance and to avoid repeating matters which have appeared in former volumes of Battle Lessons (or in dispatches). Because of the incompleteness of the material, further investigation and careful deliberation are called for; but we have hurriedly distributed it with the belief that it may be of value in future battles.

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Introductory Remarks

I. Since the opening of the struggle for the GUADALCANAL base in August of last year, naval warfare has assumed the characteristics of offensive and defensive actions in localized areas. At present the actions are centered about bases in the SOLOMON, N.I. GUINEA and ALIUTIAN areas and are heading toward a more violent stage; moreover, the enemy's counter-offensive is becoming more and more fierce. We must not view lightly the enemy's recent tactics of sending in superior forces, utilizing Radar and torpedo boats and carrying out aggressive torpedo warfare. Unless we rapidly devise counter-measures now, we will lose the opportunity (to attack), and regret it forever.

II. Especially urgent action is required in regard to the following matters:

A. The establishment of tactics for night actions in localities where the enemy is particularly alert. Especially,

1. Search and reconnaissance.
2. Methods for closer cooperation between night-fighting forces and aircraft.

B. The utilization of Radar in torpedo warfare.

1. Rapid installation of Radar, and improvement in its performance.
2. Installation of Radar-correlated target course and speed solver (電探與聯測的型).

C. Research on and perfection of jammers (妨害儀) and Radar deception apparatus (欺騙器) in order to hinder and deceive enemy Radar.

D. Improvement in the (TN: torpedo) reloading mechanism (水發機換裝裝置).

E. The installation of emergency control communication equipment (emergency voice tubes).

F. The establishment of torpedo boat (and anti-torpedo boat) tactics.

III. We must have stricter instruction and training, and work to improve our skills.

5 November 1943

HASHIMOTO, Shintaro
Torpedo Sub-Committee Chairman
Battle Lessons Investigation Committee.

Note: Hereafter Battle Lessons related to torpedo boats will be assembled and disseminated in a separate volume.

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CHAPTER I - TACTICS

--Localized Night Warfare--

Recently the enemy (U.S. armed forces) has come to use Radar and to engage in aggressive torpedo warfare. The night action off VELLA LAVELLA Island on 6 August 1943 is an example of this tendency and illustrates points peculiar to night engagements and which merit special attention.

Part A. Special Considerations in the Conduct of Night Operations
in Localities Where the Enemy is Particularly Alert.

1. Even in transport and other special operations we must anticipate an encounter with the enemy and employ the requisite battle strength. To entrust the issue of an operation to the intrepid, bold action of a few transport destroyer divisions (YUSO KUCHIKU TAI) (TN: APD's) alone is not sound logistics. You will not only fail to accomplish the object of the operation, but whatever success you might gain will be incomplete. Sending out an inferior force calls for the strictest caution and still more for thorough search and reconnaissance.

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(Combat examples and opinions)

a. In the various night actions to date our strength has been markedly inferior to the enemy's, as shown in the following table of the forces engaged:

<u>Night Action</u>	<u>Our Strength</u>	<u>Enemy's Strength</u>
In KULA Gulf	3 destroyers	3 light cruisers
Off KOLOMBANGARA	1 light cruiser 5 destroyers	7 cruisers 2-3 destroyers
Off VELLA LAVELLA (6 August)	4 destroyers	2 cruisers 7 destroyers

b. Our inability to achieve complete success in the night action off KOLOMBANGARA on 12 July 1943 can be attributed to the insufficiency of our forces and to the small number of torpedoes they carried.

(DesDiv 16)

c. The enemy was well informed of our plans in advance through his careful and exhaustive daytime air reconnaissance. Then, after thorough planning, he tried to check our reinforcement transport operations with planes, surface craft, and torpedo boats. In this situation, we had little chance of not meeting the enemy and of conducting transport missions with but a few surface craft.

(DesDiv 11)

2. Our planes must cooperate more closely and actively with our forces engaged in night action.

(Combat examples and opinions)

a. That the cooperation of planes can have a great effect on the outcome of a night battle has been proven in one engagement after another. Even if we look at the night actions to date, we will see that in both the KULA Gulf night action and that off VELLA LAVELLA (6 August) we fought at a great disadvantage because there was no cooperation from our planes. Whereas, in the night action off KOLOMBANGARA we knew the condition of the enemy beforehand through the cooperation of the JINTSU (CI) and float reconnaissance planes from the 938th Air Group; we were thus able to fight the subsequent action at an advantage.

b. In the night battle off VELLA LAVELLA our float reconnaissance planes were grounded because of bad weather, and we knew nothing of the condition of the enemy, except what we learned from radio intelligence. On the other hand, the enemy, through the skillful cooperation of his aircraft, torpedo boats and fleet, gained the initiative and attacked.

(DesDiv 17)

c. Patrol by our planes was insufficient, whereas the enemy's tracking and patrol was extremely thorough. Time and again our vessels were being tracked only a few hours after they had left RABAU, thus disclosing the object of our operation. Therefore, we must devise counter-measures to stop the activity of enemy patrol and tracking planes.

(DesDiv 4)

d. In the night engagement off KOLOMBANGARA on 12 July, there was the single radio report, "Four enemy warships sighted." This action was deficient from our point of view in the following matters:

- (1) Frequent reports on the precise position, speed and course of the enemy forces should have been made.
- (2) When closing with the enemy, parachute flares should have been dropped to facilitate the gunnery and torpedo attacks of our forces.
- (3) After closing with the enemy, prompt reports on the results, on remaining strength, and on the condition of the respective forces would have been of value in the attacks immediately following.

(DesDiv 16)

8. While escorting a convoy of transport barges (TN: 輸送船団), the 17th Destroyer Division engaged four enemy destroyers in a battle off VELLA LAVELLA on 17 August 1943. Our float reconnaissance plane units (SUITEI TAI) were able to complicate the enemy's fire control by bombing in the later stages of the battle. It is recognized, however, that had the direct liaison between the planes and the destroyer divisions been better, had parachute flares been dropped before the opening of the torpedo and gunnery attacks, and had the course and speed of the targets been reported, even greater results could have been expected.

(DesDiv 17)

9. Further consideration must be given to search and to the disposition of screening units. It is necessary not to be forced into disadvantageous actions and untimely encounters with superior enemy forces.

(Combat examples and opinions) (This section has reference to the Summary of Major Actions in the Appendix.)

In the night battle off VELLA LAVELLA (6 August) we had planned to conduct plane search and screening (SEIKAI) beforehand, but the weather and other conditions at the time made this impossible. Thus, with no reports at all concerning the condition of the enemy, we unexpectedly encountered a stronger force; they took the initiative from us and we drank the bitter dregs of defeat.

Battle lessons one after another clearly show that search is the prime factor in securing the initiative in an attack.

Part B. The Role of Radar in Night Actions

The use of Radar in torpedo warfare hard upon its introduction to the world is a matter of the utmost significance. When we stop to consider the present effective use of Radar by the enemy, devising measures against it becomes a matter of urgent necessity.

When a destroyer force without support meets a superior enemy force in a night engagement, it is advantageous first to make a surprise (TN: lit. concealed) torpedo attack, depending on the circumstances (range - about 12 or 13 kilometers; bearing - 90° or less) (TN: angle on the bow). After striking this blow at the enemy, a close-range attack should be carried out, taking advantage of the resultant confusion. In dealing with enemy surprise (TN: lit. concealed) torpedo attacks, the best method is to turn toward them and take precautions.

1. Detection by Radar generally is from beyond the limit of visibility and proceeding without being detected is exceedingly difficult. Especially when we have no Radar do we yield to the enemy the initiative in lookout and attack, suffer inconceivable defeat, and plunge ourselves into difficulties. Especially strict precautions are necessary against enemy surprise (TN: lit. concealed) torpedo attacks.

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devising a strategy to counter the enemy's Radar, thought must be given to ways of striking the enemy first, with torpedoes.

(Combat examples and opinions)

a. In the KULA Gulf night engagement of 5 July, the NIIHUKI engaged two enemy cruisers and one destroyer at a range of about 6,000 meters, bearing 56° and ran into a concentration of enemy fire which was extremely effective.

b. In the night engagement of 12 July off KOLQBANDARA, the JINTSU (CL) engaged four enemy cruisers and two or three destroyers, receiving an extremely effective concentration of enemy fire.

c. In the transport operations off KOLQBANDARA on 5 July, the AMAGIRI (DD) received a concentration of fire from several enemy cruisers; fires broke out, but in the end she sank one cruiser with torpedo fire.

d. (1) There is no doubt that the key to torpedo warfare lies in close contact with the enemy. However, the enemy's Radar is extremely effective, and we have no weapon to equal it. Under these conditions, it must be admitted that a small number of destroyers recklessly closing the range by themselves, as they did recently, have little chance of success; their action can only result in annihilation under a rain of enemy shells before they reach the launching point. Our only alternative is to deliver the first blow with a torpedo attack, so feared by the enemy; then to close the range in the resultant confusion and administer the coup de grace.

(DesDiv 11, less the YUGIRI)

(2) Use of the Type 93 torpedo.

Under present conditions we are compelled to strike the initial blow with a long range torpedo attack, having no means of closing in. It is extremely difficult to complete a mission successfully without the "long lance," (TN: ? Reach; without being able to close for initial torpedo attack.)

(DesDiv 11, less the YUGIRI)

e. Independent attacks by our destroyer squadrons at night and under conditions of limited visibility, against an enemy possessing Radar and superior gunpower, are extremely disadvantageous. It must be admitted that our traditional close-range attack by torpedo forces (SUIRAI BUTAI) is almost impossible to execute. We realize that greater success is obtained when torpedo forces dash in while fleet units having guns of 20 cm. or more fire under the protection of their Radar from long range. It is recognized that a good method of attack to avoid gun fire is to close on opposite course from ahead of the enemy and launch a salvo.

(DesDiv 27)

-Transport Operations-

Because transport operations in front line areas are being conducted mainly by destroyers, invaluable battle lessons and opinion gained from these ships have been included in this volume, even though they have no direct connection with torpedo warfare.

A. We must devote our study to a basic improvement in the installation of intermediate bases, and in the methods of supply for front-line areas. Research agencies must also be established.

1. Judging from last year's offensive and defensive operations at GUADALCANAL, from the present struggle for the capture of NEW GEORGIA

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and KOLOMBANGARA, and from the condition of land fighting on NEW GUINEA, the outcome of a battle generally hinges on the ability to supply.

Recently the enemy gathered a force of warships, planes and torpedo boats, and carried out stubborn attacks on our KOLOMBANGARA supply routes; the damage caused by their action was even greater than anticipated. With the destruction of the NISSHIN (CVS) on 5 July, and of the HADIKAZE (DD), ARASHI (DD), and KAWAKAZE (DD) on 6 August, our forces lost twelve or thirteen hundred Army personnel alone. Thus the question of front-line supply must not be lightly regarded.

The present situation is indeed alarming. Sea trucks and large landing barges (海龍大艇) in the KOLOMBANGARA ferry service would put out from BUIN and proceed independently under cover of darkness, avoiding discovery by enemy torpedo boats, patrol planes, etc. They would reach intermediate bases such as GANONGGA Island and CHOISEUL Island, hide at those places throughout the day and proceed again the next night, to avoid the enemy patrol net till the goal was reached. Even by these negative methods many transports were victims of enemy torpedo boats and planes. Moreover, our ships were repeatedly bombed once they were spotted by enemy planes, since the intermediate bases provided neither torpedo boat nor other escort, nor defense against enemy land, sea and air attacks. Whenever the enemy landed in the vicinity, a change of intermediate bases immediately became unavoidable. The fact that the enemy was able to blockade our supply routes with a small force was the reason why we withdrew from the GANONGGA Base.

Since there was not the strength of a defensive base in the BILOA Area on VELLA LAVELLA, an area of strategic importance controlling the KOLOMBANGARA supply route, it fell to the enemy and our transportation operations have become increasingly difficult.

Therefore, it is of great importance to conduct front-line supply operations with air superiority - an ideal we cannot even hope to approach in the near future. At present the following improvements are necessary:

a. Sea trucks and large landing barges should be used for transport, aircraft and torpedo boats to escort.

b. Intermediate bases with sufficient strength should be constructed as follows:

- (1) Under the protection of our air force, and if possible, a fighter strip should be constructed nearby.
- (2) Sufficiently strong AA gun emplacements and defense forces should be disposed so that enemy attacks may be fought off.
- (3) Installations to provide shelter against bombing and shelling attacks as well as concealment for our torpedo boats, sea trucks and large landing barges should be constructed of concrete and be easy to repair.
- (4) If necessary, armored installations should be constructed.

c. As sea trucks and large landing barges must frequently fight off planes and torpedo boats, they should be armed with machine guns of .3 mm. or more.

d. Enemy vessels in the vicinity of our transport routes should be attacked with planes and warships.

2. The distance from BUIN to KOLOMBANGARA is excessive for transport operations. But transport could be made safer, easier and more reliable if two or three bases with sufficient military strength were established in the intermediate area.

3. Our lack of systematic research on front-line transport problems, in spite of their importance, will have a considerable effect on future operations. It is important that we refer to these valuable battle lessons; that we conduct comprehensive research on transport organization, bases, ships used and on cooperation between warships, torpedo boats and planes; and that we try to advance our transport methods.

(The above is from DesDiv 4 reports.)

B. Rapid action must be taken in the construction of intermediate bases and in the establishment of a mode of transport for front-line operations.

If we procrastinate, our intermediate positions will be captured by the enemy; transport will not only become very difficult, but our front lines will be seriously isolated.

The Army is building transport vessels; we take this to mean that recent front-line transportation was unsatisfactory and the Army has come to have no confidence in the Navy in transport matters.

1. Since spring the advisability of ensuring and developing VELLA LAVELLA and GANONGSA Islands as intermediate supply bases for KOLOMBANGARA was mentioned in the opinions and reports of our destroyer divisions. Those in charge replied that this was being done; but when we travelled along the greater part of the VELLA LAVELLA coast after our recent disaster, we found that there were no installations at all and that only one platoon had arrived by early August. We were astonished, to put it mildly. Hence, the enemy was able to seize the BILCA district, of strategic importance in the control of VELLA Gulf, WILSON Strait and GIZO Island, in a single night's attack, and to cause great difficulty for our KOLOMBANGARA ferry service. This was the natural consequence of our failure to carry out these plans.

2. Although the practice had been established of using sea trucks and barges in the KOLOMBANGARA ferry service, there were no suitable intermediate bases for these boats or for escorting torpedo boats. Therefore, we were obliged to undergo heavy damage at the hands of the enemy, and to subject our destroyers to repeated and immoderate express-transport duties. It is no distortion to say that our destroyer-transport operations in the confined areas around KOLOMBANGARA were fraught with danger, and that the inadequacy of our transport methods and base installations was the underlying cause of the disasters to DesDiv 2 and DesDiv 15 as well as of the recent disaster.

(The above is from HAGIKAZZ reports.)

C. It is important that destroyers be used as seldom as possible in front-line transport operations, especially newly launched destroyers. The latter should be used offensively, as escorts for transport units and as support strength, to annihilate the enemy vessels.

1. By the time we made our first transport attempt on 1 August, it had already been demonstrated that it is extremely dangerous to continue operations of transport by destroyer in confined front-line areas near KOLOMBANGARA, where enemy planes and torpedo boats are rampant. This explains why the enemy was again (in the transport operation of 6 August) able to ascertain our course and speed, make such skillful use of the terrain, weather and radar, and fire brilliantly while we were engaged in our transport duties as before. Lessons drawn from the destroyer-transport operations in this area have proven a valuable legacy. Rather than compare these lessons to those of the past, we will liken their cause and effect to the cause and effect of the experiences of DesDivs 2 and 15.

2. New destroyers should be used offensively so that they may manifest their great striking power as much as possible; this has been proved in past sea battles. It is highly deplorable that we have to send

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them as transports through localities unfavorable to movement. From an overall standpoint, we think that such wastage of our new destroyers, which should be used as weapons of attack against the enemy, is not to be tolerated.

(DesDiv 4)

D. The enemy was well informed of our plans in advance through his careful and exhaustive daytime air reconnaissance. Then, after thorough planning, he tried to check our reinforcement and transport operations with planes, surface craft, and torpedo boats. In this situation, we had little chance of not meeting the enemy and of conducting transport missions with but a few surface craft.

In the reinforcement transport operations to KOLIBANDAMA carried out by DesDiv 11 on 1 and 2 August, the enemy had adequate knowledge of our plans based on exhaustive, daily air reconnaissance. Consequently, he was able to attack our reinforcement transport forces and screening units in the midst of his operations with planes and torpedo boats. We, however, rammed and sank an enemy torpedo boat and completed our mission. Since this force did not encounter great opposition from the enemy planes and surface units, it was able to get through. However, unless we conduct effective transport operations hereafter under new and complete plans calling for cooperation between an adequate air force and strong surface units, we will achieve nothing but futile damage to our ships.

(DesDiv 11)

-GENERAL-

SUBJECT	NO.	BATTLE LESSON	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
The Initiative in an Operation	5	It is necessary to possess the initiative throughout all operations. In the present stage of the war we are committed to the defensive, but isn't it dangerous to follow a policy of passive defense	In all recent operations we had to take our cues from the enemy, while he has grouped his forces as he pleased. Our desperate battles in the Southeast Area may be traced to this situation. Hence, we must shortly strike the enemy unawares and disperse his forces, thus raising our morale. The HAGIKAZE has only recently been a part of the Southeast Area Force, but in that time we have realized how much lower the morale is, compared with last year (1942) when it was aggressive and possessed a definite fervor. (HAGIKAZE)	

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SUBJECT	NO.	BATTLE LESSON	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
Reserve Torpedoes (水雷) (水雷)	6	There are some who argue that from the standpoint of preventing damage, reserve torpedoes should be put ashore, despite the fact that the stability of the Type 93 torpedo has been proved. We think, however, that if all torpedoes are fired on one occasion, the time will come when this action will be regretted. It is absolutely necessary to carry reserve torpedoes.	In the night action off KOLOMBANGARA, the YUKIKAZE (DD), HAKAKAZE (DD), KIYONAMI (DD) and YUGURE (DD) engaged an enemy surface force consisting primarily of cruisers; and in two torpedo attacks succeeded in sinking three enemy cruisers and setting one afire. But they ran out of torpedoes and were unable to drive home their success. (DesDiv 16)	
Aerial Photographs	7	As the charts for regions in which transport operations are being carried out leave much to be desired, the preparation of temporary charts from aerial photographs is an urgent necessity.	1. The temporary charts prepared from aerial photographs which we used while transporting during the REKATA operation were most valuable. 2. Charts for the VELLA LAVELLA and CHOISEUL Islands areas are unreliable, making inshore navigation unsafe. Aerial photographs for this region must be completed at once. (HAGIKAZE)	

CHAPTER 11 - EQUIPMENT

Part 1 - Control Equipment

SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
Control Equipment	13	Accompanying the development of Radar there was a pressing need for improvement and research in control equipment related to it so that better results could be obtained from torpedo attacks. For the present, the following measures must be taken: 1. Radar-correlated target course and speed solver (水雷 水雷 水雷 水雷) must be furnished at once. 2. We must immediately correlate the present firing method indicator (TN: 水雷 水雷) with Radar, and moreover, study and improve the present firing method.	1. We must utilize Radar in torpedo actions and aim at a decided advance in the effectiveness of torpedo attacks through the improvement in accuracy of target data. (DesDiv 11) 2. Findings of the SHIRAKAZE (DD) in research firing using Radar. (See Annexed Reference)	

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SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
Control communication circuits; emergency voice tubes.	16.	We must improve the installation of control communication circuits, firing circuits and reserve equipment. We must also install emergency control communication equipment (emergency voice tube) at once.	1. At present all circuits run along the same side of the ship, bound together. One good hit would render useless all control communications as well as the reserve equipment. We must make improvements even if we only put the reserve equipment on the opposite side of the ship. 2. The installation of emergency control communication equipment (emergency voice tubes, etc.) is very necessary. (The above is from DenDiv 11 reports.)	Refer to Battle Lessons Vol. III, Page 17.

(Annexed Reference)

Findings and outline of the progress in Radar Research Firing carried out by the SHIMAKAZE (Extracts from SHIMAKAZE reports)

A. SUMMARY

On the morning of 5 September (TN: 1943?), in the western part of the Inland Sea, we fired torpedoes at our target, the HIBIKI (DD), which was proceeding on a direct course nearly parallel to ours. The Radar's discrimination was not good that day. The target was first picked up at 6,200 meters and plotting started. Nine bearing and range lines were obtained in 8 minutes, 5 seconds. The target data was estimated as follows, and torpedoes were fired:

1. Target data

Data	Radar Plot	Actual	Error
Target speed	15 knots	21 knots	-6 knots
Target course	80°	75°	+5°
Track Angle	102°	97°	+5°
Relative Bearing	Port 58°	Port 67°	-9°

(N.B.) While we were plotting, the target ship HIBIKI increased its speed to 21 knots. The target speed of 15 knots which appears in the "Radar Plot" column was obtained during the early stage of our plotting.

2. Data from Fire Control Panel (i.e., Director).

Gyro Angle (TN: Oblique Pursuit $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$) Stbd. 42°

Sight Angle Parallel course 18°

Correction Ahead 8°

3. Target Data Recording and Plotting

Refer to Annexed Tables #1 and #2.

In Annexed Table #2 we have magnified the scale of the plotting to clarify the situation and, as all the target data values are entered, considerable accuracy has been obtained.

B. FINDINGS

1. Torpedo Firing by Destroyers Using Radar Alone.

In spite of the especially poor Radar discrimination at the time and the fact that we plotted with very inadequate instruments, the condition of the enemy (TN: target data) as obtained was sufficiently useful. Needless to say, when Radar discrimination and accuracy have been increased and the target course and speed solved utilizing Radar has been perfected, /torpedo/ fire using Radar alone could be very easily and accurately carried out.

2. Criticism of the Installation of Equipment.

* Errors which may arise under present conditions:

a. Range and bearing errors due to poor Radar discrimination and accuracy

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- b. The differences in time between the moment of Radar measurement and the moment the reading is taken from the receiver on the bridge.
- c. Range transmission errors and errors in reading the receiver.
- d. Errors in reading the bearing.
- e. Errors in plotting.
- f. A time lag between the bearing as it is determined by the Radar and as it appears on the fire control panel (i.e., director).

* We must construct a target course and speed solver capable of eliminating the above errors in so far as possible.

Namely:

- a. Own ship's movement should be automatically recorded from gyro-compass and log. (One plan is to utilise the automatic tracker.)
- b. The Radar Bearing Pointer must be placed in a Target Bearing Indicator containing compass repeater card so that line of sight can be kept on.
- c. By following the above pointer, target ranges and bearings will automatically be put into a target course and speed solver. Or, target range and bearing can go directly from Radar into a receiver in the target course and speed solver.
- d. By installing a Radar range receiver in the target course and speed solver determine the range from the fluctuating range needle which follows the radar range receiver/.

Reference: Special diagram (one plan)

* The Ideal Target Course and Speed Solver.

- a. By introducing the gyro and log /readings/ in the calculator we introduce own ship's maneuvering capacity.
- b. By following the Radar measured range and bearing we introduce /it/ in the calculator.
- c. With the above, enemy speed and track angle is computed at every moment and designated numerically just as in the Type 2 range and deflection board.

3. Investigation of Stationing of Personnel.

No special items.

4. Miscellaneous

As a result of the present firing and the experimental firing while the ship was at high speed (carried out according to Navy Technical Bureau Ultra-Secret #3011), it was ascertained that the ship, while steaming straight ahead at a high speed, could use oblique pursuit firing corresponding to actual battle.

Reference

a. Results of oblique pursuit firing

Gyro angle transmitted by Type 1 torpedo director,	Stbd 42°	Error
Actual gyro angle at torpedo mounts #2 and #3	Stbd 42°	0
Actual gyro angle at torpedo mounts #3 and #4	Stbd 41.7°	Stb 0.2°

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- (1) Torpedo launching and running conditions were both favorable.

Annexed Table #1

RECORD OF TARGET DATA

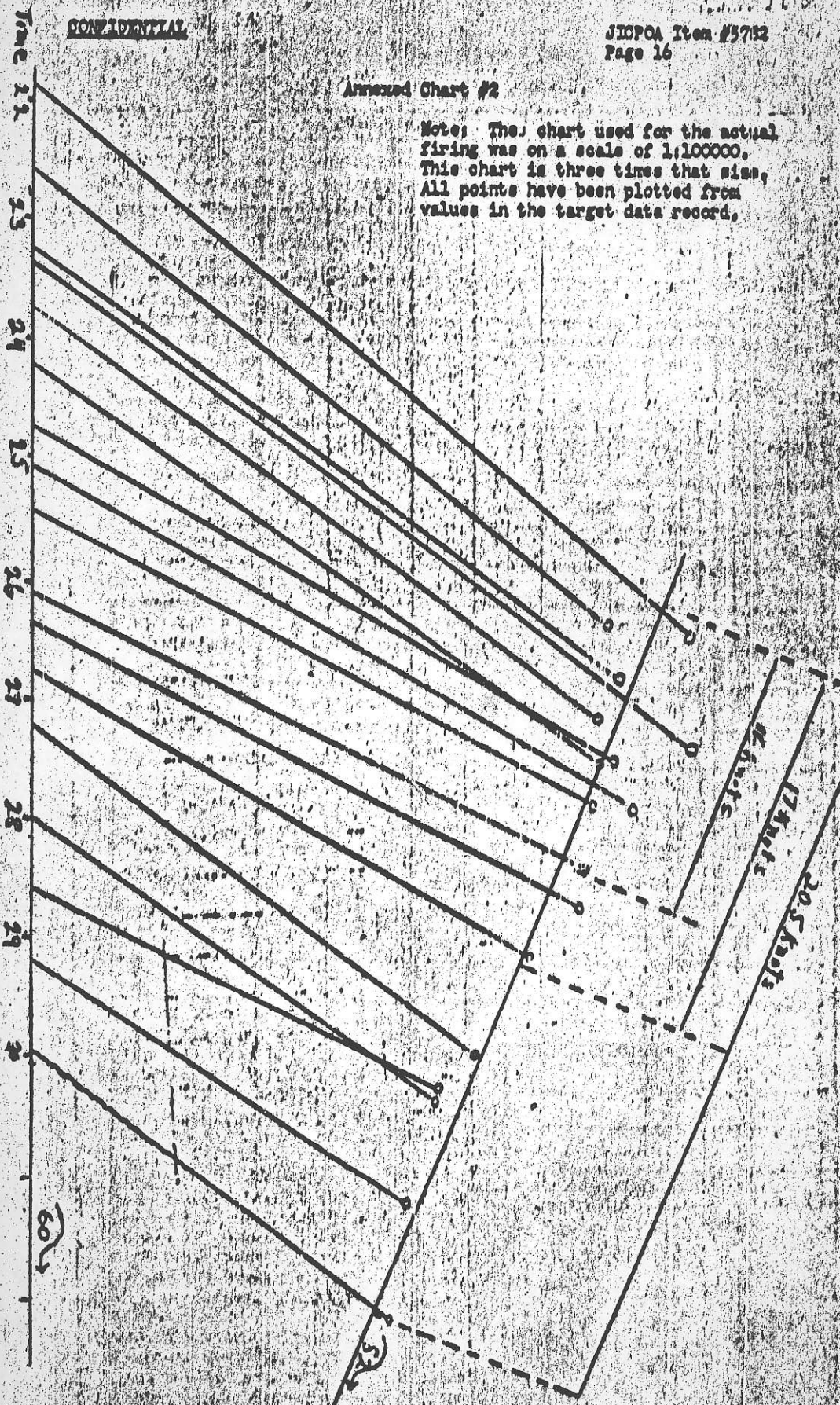
Time (minutes- seconds)	Relative Bearing (degrees)			Range (meters)			Notes
	Radar	Director	Error	Radar	Range- finder	Error	
0-0		Port 30			15,000		HIBIKI seen bearing Port 30° (330°) at 15,000 meters
21-53	Port 50	51	-1	6200	5900	+300	
22-36	51	52.5	-1.5	5600	5650	-50	
23-06	53	54	-1	5600	5450	+150	
23-20	54	54	0	5700	5500	+200	
23-40	54	54.5	-0.5	5100	5200	-100	
24-08	55	55.5	-0.5	5000	5300	-300	
24-40	60	55.5	+4.5	4800	5000	-200	
25-0	61	56.5	+4.5	5000	4950	+50	
25-25	63	56	+7	4500	4800	-300	
26-05	64	59	+5	4400	4700	-300	
26-22	64	59.5	+4.5	4500	4650	-150	
26-45	61	59.5	+1.5	4100	4500	-400	
27-15	54	62	-8	3900	4250	-350	
27-37	56	62	-6	3500	4250	-750	
28-30	64	64	0	3400	4010	-610	
29-09	57	64.5	-7.5	3300	3950	-650	
29-50	53	66	-13	3200	3750	-550	
29-58	58	67.5	-9.5	3000	3750	-750	Fired
	Average		-1.2	Average		-267	

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Annexed Chart #2

Note: The chart used for the actual firing was on a scale of 1,100,000. This chart is three times that size. All points have been plotted from values in the target data record.



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PART B - RADAR EQUIPMENT

SUBJECT	NO.	BATTLE LESSON	COMBAT EXAMPLES WITH REASONS (SOURCE)
RADAR (DEMPA TANOHIN- OI)	1	Our battle lessons show that the use of Radar in torpedo engagements has become a matter of the utmost importance, demanding an all-out effort on the part of those concerned to devise counter-measures immediately. 1. It is imperative that we quickly equip all night combat forces with Radar. 2. Measures for research on the improvement of Radar performance and accuracy must be undertaken at once. The performance and accuracy required by torpedo warfare is as follows: a) Bearing accuracy: within 0.5 degrees. b) Effective range: for cruisers: at least 30 kilometers; for destroyers: at least 20 kilometers. c) Ranging accuracy: within 100 meters.	1. Cases in which the initial discovery of the enemy was made possible by the use of Radar. While proceeding through KULA Gulf on 5 July 1943, the NIIZUKI (DD) detected by Radar what seemed to be surface units broad on the port beam at 2305. Again at 2306, the NIIZUKI detected what seemed to be northward bound ships on the port beam, bearing 100° at 5 kilometers. At 2348 an enemy surface force was sighted. In view of the situation thereafter, the Radar bearings were remarkably accurate. (DesDiv 24) 2. Cases in which we have fought extremely disadvantageous actions because we had no Radar related equipment (TN: DENTAN KANKOHEIKI) whereas the enemy did. a) In the KULA Gulf night engagement of 5 July the NIIZUKI incurred the Radar controlled fire of an enemy BROOKLYN Class cruiser, lost the initiative and finally had communications disrupted by the hail of shells. It is essential that we immediately equip all our ships with Radar so that, in a night engagement, we can at least stand up to the enemy on even terms. Under the present conditions, the enemy always has the initiative, we have no freedom of movement and the decision on whether to fight or not is always in the enemy's hands. (DesDiv 24) b) In an engagement in which DesDiv 4 was employed on a transport mission to KOLOMBANGARA, the enemy was lying in wait using KOLOMBANGARA Island as a background and, from a place of low visibility, enveloped us very skillfully; and, when he discovered us near the limit of visibility, he launched his torpedoes, withdrew for a time and, verifying the success of the torpedo attack, opened up with his guns. Because of all this, it is almost certain that from the beginning he prepared for the torpedo attack using Radar. If we do not quickly devise a counter-weapon every time the enemy introduces a new type weapon, it can only result in great losses. When one considers the trends in future warfare,

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he realizes that there is urgent need for installing Radar, Radar interception devices (TN: 防空装置), Radar receivers (TN: 防空受信機) and jamming devices (TN: 妨害電波装置) and research in their use.

1) In the 6 August night engagement off VELLA LAVELLA Island, if we had possessed Radar related equipment (TN: 防空装置) we would have been able to fight an engagement which would have been more advantageous. Although at the time of departure of the HAGIKAZE (DD) and ARASHI (DD) from KURE in July they were equipped with parts of a Radar interception device, upon reflection, how regrettable it is that they were not fully equipped even with this device. Even though the following is a previously cited combat example, the night engagements that were fought by CruDiv 6 at SAVO Island in October 1942 and by DesRon 2, DesRon 3 and DesDiv 2, etc., at KULA Gulf this year were favorable to our side. If we had had Radar equipment the outcome would have been even more favorable.

2) As may be seen from the above instances, our forces from the very beginning have had bitter experiences with the enemy's use of Radar. Since that time, about ten months have passed and today we again find that the enemy has not only used his new weapons with the maximum effectiveness, but that our counter-measures have made slow strides. In other words, if installation of Radar equipment is delayed just one day, not only will it be impossible for our warships to bring their combat power into play, but we will suffer unforeseen increases in ship losses.

3) Generally, Radar is indispensable in searching for and contacting the enemy during air, gun, torpedo or submarine engagements and it influences combat power remarkably. While it is changing many battle techniques, it is obvious that the weapon will increase in importance in the near future and it may be said that, along with this, the use of jamming and related deceptive techniques is inevitable. If we don't keep one step ahead of the enemy in originality and research now, we will again have cause for regret. (DesDiv 4, DesDiv 27)

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		3) The power which the newly constructed SHIMAKAZE (DD) displayed in anti-submarine attacks must be noted as something which probably will record a new chapter in the present anti-submarine operations. When we realize that an important reason for this lies in the excellence of its Radar and underwater listening devices, the equipping with Radar of every ship from a merchant vessel down to a special sub-chaser, no matter what the difficulties, would in the end be a short cut to victory in the battle of supply. The need for carrying this out immediately is recognized. (HIBIKI)
Radar Detection Devices (TN: DELPA TANCHIKI)	1. Radar Detection devices are extremely effective; it is necessary to immediately equip all forces employed in night engagements. 2. It is necessary to generally raise the effectiveness of this equipment.	1. Cases in which Radar Detection Devices were used effectively. a) In the recent night engagement of 12 July off KOLOMBANGARA, where this device first made its appearance, we positively determined the presence of the enemy two hours before we met him. Right up until our meeting with him, we were aware of the change in our relative positions and we were able to verify the remarkable effectiveness of this instrument, which gave us ample confidence in our ability to gain prior knowledge, in response to the enemy's use of Radar. (DesDiv 16, YUKIKAZE) b) (1) Our ability to accurately determine the position of the enemy one hour before meeting him in this night engagement was of great assistance in conducting the subsequent operations. This verified the high degree of effectiveness of this instrument as a counter-measure to the enemy's use of Radar. (2) The radiation of electric waves immediately before the enemy opened fire consisted of about two seconds' continuous radiation and after three minutes had passed, they opened fire. It may be seen from this that the time of the enemy's opening fire can be determined. (3) Since this device is extremely effective in operations, it is realized as necessary to keep the error at least less than ten degrees. (DesDiv 17, HAMAKAZE, ISOKAZE) 2. a) DesDiv 16 (YUKIKAZE) Detection /of enemy Radar/ in the night engagement off KOLOMBANGARA Annex 1 b) HAMAKAZE (DD) Detection /of enemy Radar/ in the night engagement off VELLA LAVELLA (17 & 18 August) Annex 2

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Appendix #1

DesDiv 16 (DD YUKIKAZE) Conditions of /Radar/ Detection in a night action
off VELLA LAVELLA Island

Time	Conditions of Detection	Estimated Relative Situation
2120	Marined instrument	
2125	Detected frequency - 175 megacycles; direction - ahead to starboard	Port 18°, 75 miles
2150	Frequency varies slightly; signal strength fell off somewhat.	
2151	No contact	
2215	Detection (signal strength rather low) - ahead to port.	
2235	No contact	
2240	Detection (signal strength much greater than before, contacts in all directions) - ahead to port.	Port 8.5°, 23.5 miles
2245	No contact	
2252	Detection (signal strength great, pure tone) - appeared to both starboard and port.	Port 4.5°, 15 miles
2256	No contact	
2305	Detection (momentary radiation) - appeared to both starboard and port.	Port 8°, 7.7 miles
2307	Enemy sighted from bridge	
2345	Detection to starboard	stbd, 130°, 6.5 miles (There was another radiation; is it the enemy?)
2349	No contact	
2351	Detection - to starboard	
2354	No contact	
	Subsequently there were radiations for several minutes with discontinuance for several minutes; this was repeated - to starboard	
0005	Detection (momentary radiation)	Immediately before first launching of torpedoes.
0025	Detection (momentary radiation)	
0040	Detection - astern to port	Port 170°, 23 miles
0042	Detection - astern Subsequently no contact	

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ERRATA

Page 20, Appendix #2.
DesDiv 16 (DD YUKIKAZE) Conditions of Radar/
Detection in a night action off VELLA LAVELLA
Island.

For VELLA LAVELLA, read KOLOMBANGARA.

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Time	Conditions of Detection	Estimated Relative Situation
0208	Detection - 2 places astern or astern to port. Subsequently intermittent radiation for a long period. There were two signals of different amplitudes. Are the radiations coming from two different places?	
0245	No contact - secured watch.	

Note: Main items of detection:

1. Frequency 175 megacycles - there was a small variation to right and left in frequency.

2. Tone quality:

It does not have a clear tone like our Echo ranger (TN: TANSHINGI), we frequently hear a sizzling sound in the receiver. It resembles the interference of an electric bell or loud speaker telephone, it is an indistinct sound; after drawing closer (about 20 kilometers), the tone became clear.

3. The signal is extremely narrow.

4. Detected distance, estimated distance 140 kilometers (75 miles).

5. Condition of radiation:

Although there are intervals in the radiation, it is unrestrained, 15 minutes before meeting the enemy there were signals in all directions. (Since the radiation energy is great, it is presumed to be a forced process.)

At this time we first detected a clear tone,

Just 12 minutes before meeting the enemy we noticed a radiation of 2 or 3 seconds. (The same phenomenon noticed on second meeting with the enemy.)

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Appendix #2

DD HAMAKAZE in night action of VELLA LAVELIA Island 17 August
Conditions of Detecting Enemy Radar

Time	Conditions of Detection	Estimated Bearing
2000	Manned instrument and stood by to pick up radiations from planes and surface craft.	210°
2116	Detection - ahead to starboard (Stbd. 60°) (Subsequent readings impossible because of intermittent momentary radiation)	
2126	No contact	
2127	Detection signal strength fell off somewhat - ahead to starboard and on the starboard beam (Stbd. 80°)	230°
2131	No contact	
2140	Detection signal strength rather good - ahead to port and on the port beam. (Port 60°)	160°
2143	No contact	
2150	Although detected signal strength was very good, there were two waves, high and low, as if there were two sources of radiation. The radiation time and interval was undetermined. Judging from the fluctuations in the signal strength, enemy Radar seemed to be searching for us. Ahead to port and on the port beam (Port 80°)	350°
2208	No contact. Subsequently even after the enemy came within sight there was no contact.	
2254	Detected radiation continuously for 20 seconds. (We were aware that they were ranging on us and were forewarned of an enemy shelling.) - ahead to port and on the port beam (Port 130°)	60°
2300	No contact	
2305	Detection - ahead to port (Port 50°)	210°
2320	Detection - ahead to port (Port 50°)	210°
2328	Detected signal strength falling gradually - ahead (Port 60°)	200°
2330	No contact (Hereafter no contact)	

Notes: That night we did not detect any Radar which could be presumed to be enemy aircraft.

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PART C - FIRING EQUIPMENT

ITEM	NO.	BATTLE LESSONS	COMBAT EXAMPLES AND REASONS (SOURCE)
Re-load- ing Gear	27	In view of the development of radar and the special characteristics of local fighting, it is most likely that future torpedo warfare will become close-in assault following medium range torpedo attack. The need for continuous firing is increasingly important. In the light of battle lessons the present re-loading device needs still more improvement in speed and certainty.	1. Instances and difficulties in which success in battle was made inconclusive because of delay in reloading. a. On the night of 5(6) July the SUZUKAZE (DD) and the TANIKAZE (DD) engaged 3 enemy light cruisers and 2 enemy destroyers in KULIA Gulf. By torpedo fire they sank 1 light cruiser and set fire to one destroyer. However, they took a long time (1 hour 14 minutes) in reloading and on reentering the battle area, they had lost the enemy. b. Difficulties (1) SUZUKAZE The following difficulties and errors arose during the reloading. They took about 40 minutes in loading and approximately 1 hour to charge the #1 air manifold (第一空気の補充) and open the starting valve. #1 Mount #3 Tube During loading, the process was held up by the strap becoming jammed on the rollers, necessitating that the torpedo be withdrawn by tackle and reloaded. #1 Mount #4 Tube While loading because the breech door swung inward (it seems that the catch did not operate properly) the head of the torpedo forced the door closed and by manpower the torpedo had to be pulled clear. After the door was completely opened, they loaded. #2 Mount #1 Tube When the torpedo was prepared for firing the threaded cover of the air check valve for the compressed air used in the steering system was not screwed in tightly enough. When loading, it hit the rear end of the tube, since there was delay in stopping the winch (T.N. 同要録), the loading cable parted and the torpedo had to be backed out, after tightening the cover, we loaded by hand.

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ITEMS	NO.	BATTLE LESSONS	COMBAT EXAMPLES AND REASONS (SOURCE)
			(2) TANIKAZE #1 Mount #1 Tube Immediately after firing #1 mount, #1 and #2 tubes were trained and set at the loading position. #2 tube was loaded as usual but in the #1 tube when the head of the torpedo had been inserted, the friction wheels were slipping and it could not be loaded. Even though they tightened the loading cable and adjusted the pressure increase wheels (TN: 加圧車), the torpedo still would not move forward. They then attached a jigger to the forward end of the torpedo and tried to load with this; after the torpedo had moved in as far as the engine chamber, again it would go no further. With suspicions aroused, they examined the depth setting mechanism and found it to be at the "Engaged" position. They pulled back the torpedo a short way and tried to fix the depth setter. In doing this they bent the depth setting rod and were not able to get it out. They abandoned the effort on #1 tube and withdrew the torpedo. The time needed to load #3 and #4 tubes was 35 minutes. #2 Mount #4 Tube Immediately after firing the #2 mount it was trained and fixed at the loading position. #1 and #2 tubes were loaded normally and even though the friction wheels were slipping, the loading was completed. On #4 tube the loading cable became fouled about 1 meter from the tube. They twisted the change block (TN: 切換ブロック Fairlead block) to clear the cable but the block would not revolve on the swivel. They tried to clear it at the turnbuckle which tightens the loading cable; they unscrewed the turnbuckle and opened it. (It was night time and no lights were used.) (By this time the winch had wound up the loading cable and this caused undue delay in the loading thereafter.) The block and turnbuckle from #3 tube was attached to the oyo of the warhead and preparations made to load by jigger. Although the preparations were already made, the loader was now ready so they quickly loaded with it.

Opinions in General

1. Because of the mission on transport operations, it was impossible to prepare torpedoes for firing prior to sortie for night action (drain separators in air changing system in order to charge flask for steering control and various inspections). Therefore, they had to be made in total darkness while leaving the harbor. While we were reloading, an enemy 15.2 cm. shell passed through the port machine gun mount and exploded the 25 mm. m/g ammunition. Since the torpedo loading was going on directly below this, presence of mind and calmness failed.....In essence, the trouble is more and more that training is insufficient. If training is not carried out repeatedly and severely until such time as actions are reflexive and instinctive under any circumstances whatsoever, it is natural that conditions will become extremely difficult and that errors will arise at the scene of battle. The opportunities for carrying out actual reloading practice are extremely rare and generally consist only in going through the motions. The vital importance of reloading in night battles is recognized; there is a great need for simulated battle training.

What is more, the ordnance men hope that epoch-making improvements are planned in the machinery.

(Torpedo Officer of the SUZUKAZE)

2. Causes of breakdowns and points which must be carefully tended are as follows:

a. The slipping of the loading cable of #1 Tube #1 Mount.

- (1) In this equipment the resistance between the friction wheels and the loading cable is insufficient.
- (2) There is a tendency for the axis of the torpedo tube and the loading platform to vary because of the high speed and the boiler room used.
- (3) The handling crew's lack of training in night loading.
- (4) The mistake in putting heavy things on top of the torpedo storeroom.

b. The fouling of the loading cable of #4 Tube, #2 Mount.

- (1) The loading cable had been used only a few times since its renewal (the whole loading process had not been carried out). The cable fouled and they did not handle it satisfactorily.
- (2) It is thought that it could be managed easily in the daytime.
- (3) The turnbuckle which tightens the block and the loading cable must be improved by using one which does not revolve, such as those used on cruisers.

c. The depth setting mechanism of the #1 Mount.

- (1) After firing the tube the handling crew, in order to reload it, when it came out of the shield, by mistake forced it in.
- (2) In view of the fact that the depth setting spindle was not restrained sufficiently by handle A, the following is presumed to be the case:

The depth setting spindle was not withdrawn far enough after the depth was reset before firing; when the depth setting spindle was forced in immediately from the full out position because of the weakness of the spring of handle A, handle A was useless (This was discovered during investigation of the cause of breakdown).

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- (3) The action of the torpedo crew must become habitual so that they will not harm operating parts of the tube.

(TANIKAZE)

3. An illustration of how the results of battle will be enlarged by handling reloading swiftly.

Deadly 16 (YUKIKAZE), HAMAKAZE, KITONAMI and YUGURE discovered 4 enemy cruisers during a night battle off KOLOMBANGARA Island at 2308 on 12 July. After sinking one cruiser and setting fire to another in a torpedo attack at 2312, and after completing reloading (Reloading time - 18 minutes), returned to the scene of battle at 2340. They discovered 3 enemy cruisers and from 2 to 3 destroyers at 0002. They sank 1 ship and set fire to another (sunk) by a torpedo attack at 0005; they gained great success.

4. Miscellaneous opinion

a. Even though the fact that the loading cable erodes the reel of the reloading gear in the SHIGURE class of destroyers has appeared as a battle lesson in successive torpedo actions, that failure again arose in the #2 and #3 mounts of this ship. The following are presented as counter-measures:

- (1) When the preparations for loading are complete, discontinue taking a few turns around the reel with the steel cable. When loading begins, remove the reel cover and station a man at the reel to check the condition of the guide wheel and the loading cable.
- (2) The reel pawl is useless.

(SHIGURE)

b. It is necessary to have speedier reloading gear; newly constructed ships must have the torpedo gear of the SHIMAKAZE class ships.

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SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
The starting valve in a sudden torpedo engagement	10	The starting valve should be opened as soon as possible in accord with combat conditions; it is important to have a sufficient margin of time before firing	Although in the battle off VELLA LAVELLA on 6 August the HAGIKAZE opened its starting valves at the same time she sighted the dark outline /of ships/ (without causing any difficulty), as a matter of principle on occasions of visibility such as were obtained at that time it is better to open them earlier. (DesDiv 4) Examples from the night action off KOLOMBANGARA: 1. The starting valves on the YUGURE were not opened in time, so that one torpedo could not be fired. 2. When the starting valves on the YUKIKAZE were being opened the valve rod broke off so that it was impossible to fire one torpedo. (DesDiv 16)	Refer to Battle Lessons (Torpedoes) Volume II, Chapter 4.
(UN: Probably "starting valve" is what we call "stop valve.")				
Battle Stations	11	If a sudden encounter with the enemy is anticipated, all hands must be at their battle stations. After "Prepare for sudden torpedo action," has been sounded, the director layer and the torpedo officer must be resolved to sight the enemy before the regular lookout.	When the enemy was encountered in the battle off VELLA LAVELLA on 6 August, the torpedo officer was at the starboard director, having stationed the signal officer at the port fire control panel; the layer for the port director was resting, his post manned by an assistant. Consequently, there were many blunders when the enemy was sighted. Moreover, part of the crew for the #1 torpedo tube mount was under the awning on lookout duty. When the order for a torpedo action to port on opposite course was sounded, although these men were ready for firing, there was considerable confusion. (SHIGURE)	

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SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)	REMARKS
Torpedo reloading and the handling and maintenance of its related equipment.	12	Stricter training in torpedo reloading must be given and absolute perfection expected in the handling and maintenance of its related equipment.	A deficiency in training was the primary reason for the mistakes and difficulty encountered with the torpedo reloading mechanisms aboard the SUZUKAZE and TANIKAZE during the night action in KULA Gulf on 5 (and 6) July. It was also recognized that ranking with this deficiency were shortcomings in the handling and maintenance of equipment (Refer to the section on torpedo reloading and firing mechanisms for details.) (Torpedo School)	

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SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)
Electric Circuits	25	We must make rapid improvements in the various F.C. communications, gun and torpedo firing circuits aboard our present destroyers, as well as in the installation of auxiliary equipment. These circuits run along one side of the ship together, thus all control communication as well as its auxiliary equipment could be rendered useless with but one shell hit. We must at least improve the situation by passing the auxiliary (T.N. communication) equipment along the opposite side of the ship. Moreover, we must quickly set up emergency control communication equipment such as voice tubes, etc.	In the night action off KOLOMBANGARA we engaged an enemy surface force the nucleus of which was three cruisers. We were hit by four shells which destroyed our torpedo fire-control communication circuit, torpedo firing circuit, fire-control communication circuit, the firing and communication circuits of our director, the circuits for our navigating and signal lights, and one part of our engineer department circuit. (AMAGIRI)
Agencies for Research on Transport Operations	2	There is an immediate need for the establishment of agencies to study the subject of front-line transport.	There are schools, laboratories and other institutions for the study of logistic techniques. But there are none whatsoever for the study of front-line transport; despite the fact that its success or failure will determine the outcome of land battles and that it embraces such divergent but related subjects as logistics, ships, installations (including even bases), materiel, etc. This situation will certainly not lead to rapid progress on our part. We must set up, rapidly, research agencies which will compile opinions based on front-line experience and unite on logistic policies. (HAGIKAZE)
The Staff of an Operation Commander	3	Persons with long experience on destroyers must be included among the members of an operation commander's staff and among his chief subordinates.	Destroyers are the most active units of our surface forces in the present stage of the operation; yet destroyer men have not been attached to the staffs of either central or advance headquarters. Hence, our destroyers have been subjected to senseless logistic operations and to frequent trouble. This situation has greatly affected the combat ability and morale of these ships and has necessitated further thought on the administration of personnel. (HAGIKAZE)

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SUBJECT	NO.	BATTLE LESSONS	COMBAT EXAMPLES WITH REASONS (SOURCE)
Crews of a DesRon	4	Destroyers are very active once the enemy has been engaged. The crews suffer many hardships, consequently they realize that in comparison to other enlisted men they are the elite of the surface forces. We must honor those who serve in destroyers and guide them. Moreover, we must study means for their comfort and entertainment.	Destroyers see much more action than other ships and their crews bear more hardships. In addition, destroyers are frequently damaged or lost so that some members of their crews have become passive, requesting duty ashore or in larger ships. If this attitude spreads we shall have cause to become apprehensive. (HAGIKAZE)

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APPENDIX

CHAPTER I - SUMMARY OF MAJOR ACTIONS

Part I - Night Action in KULA GULF (5-6 July 1943)

1. Participating Forces

a. Our strength and disposition:

	SUPPORTING UNIT	FIRST TRANSPORT UNIT	SECOND TRANSPORT UNIT
Commander	ComDesRon 3	ComDesDiv 30	ComDesDiv 11
Strength	NIIZUKI, DesRon 3 flag DesDiv 24: (SUZUKAZE flag), TANIKAZE	DesDiv 30: (MOCHIZUKI flag, MIKATSUKI) YUNAGI, HAMAKAZE	DesDiv 11: (AMAGIRI flag, HATSUYUKI) DesDiv 22: (NAGATSUKI flag, SATSUKI)
Primary Mission	Destruction of enemy vessels	Transport to KOLOMBANGARA	
Note:	The First Transport Unit was proceeding independently and did not participate in this night battle		

b. Strength of Enemy:

3 light cruisers (presumed to be of the BROOKLYN class)

2 destroyers

2. Progress of the Battle

a. Having landed in a counter-offensive on RENDOVA on 30 June 1943, the enemy planned to reinforce his troops. In his plan for the capture of MUNDIA, the enemy also intended to make a landing in the BAIROKO Island area with naval support at midnight on 4 July. However, our counter-attack repulsed them.

A reenforcement force left the northern entrance of SHORLAND (Harbor) at 1736 on 5 July to transport more Army troops and supplies to KOLOMBANGARA.

b. At 2226 the First Transport Unit broke column in compliance with orders.

c. Our force, in column (NIIZUKI, SUZUKAZE, TANIKAZE, AMAGIRI, HATSUYUKI, NAGATSUKI, SATSUKI), was proceeding towards KULA GULF when the NIIZUKI detected enemy surface ships at 5000 meters broad on the port beam at 2306. At 2346 the enemy ships were vaguely sighted bearing 40° at 7000 meters (TH: Bearings are relative. Given as Starboard 40°, etc.)

d. At 2343 the Second Transport Unit broke column in compliance with orders.

e. At 2354 the Support Unit (NIIZUKI, SUZUKAZE, TANIKAZE) made out three enemy cruisers and one destroyer bearing 56° at 6000 meters, engaging them at 2356. The NIIZUKI was hit by an enemy shell.

f. The SUZUKAZE and TANIKAZE launched torpedoes at the enemy cruisers and destroyers at 2357. At 0002 an enemy cruiser was hit by a torpedo, causing it to blow up and sink; one destroyer caught fire and was left burning (its sinking was confirmed later).

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g. The AMAGIRI joined battle at 0018 and commenced firing (TN: Gunfire); the HATSUYUKI opened fire at 0022. At 0034 both ships broke off action together and proceeded to land the Army troops.

h. The SUZUKAZE and TANIKAZE returned to the scene of the action at 0200 after completing their torpedo reloading, but being able to locate neither the NIIZUKI nor the enemy they returned.

i. The AMAGIRI gave up its landing attempt, and at 0333 on its way to the harbor at SHORTLAND, encountered and engaged an enemy surface force consisting mainly of two cruisers bearing 60° at 8000 meters. At 0336 it fired torpedoes at the enemy cruisers, hitting one at 0345. Large flames and columns of fire were seen issuing from it (its sinking was confirmed later).

3. Results

Two light cruisers sunk (one blew up and sank)

One destroyer sunk

4. Damage Incurred.

Ship	Cause	Extent and Location of Damage	Number of Casualties
NIIZUKI	Enemy shells	Put out of action	
SUZUKAZE	Enemy shells	(a) The Type 92, 90 cm. searchlight and its platform destroyed. (b) Barrel of starboard gun, No. 1 turret, bent. (c) Part of the water-tight bulkhead, No. 1 turret, destroyed. (d) One of the forward ammunition lockers for the port 25 mm. MG destroyed. (e) Degaussing coil severed (TN: 47 外 10 88-). (f) Hull pierced 4 places, No. 2 stack pierced in 3 places, upper armor plate on No. 1 turret pierced in one place.	2 dead; 1 seriously wounded.
TANIKAZE	Enemy shells (Dud) (TN: lit. blind shell)	Windlass room, rice and barley storeroom flooded. Impossible to use the windlass.	
AMAGIRI	4 enemy shells	(a) Gunnery /Fire/ Control circuit completely destroyed; director firing circuit and communication circuit completely destroyed. (b) Torpedo fire control circuit and torpedo firing circuit completely destroyed. (c) Forward radio room completely destroyed; one part of the antenna damaged. (d) No. 1 Navigation storeroom destroyed; the circuits of various navigating and signal lights destroyed. (e) Part of the engineering department circuits destroyed. (f) No. 1 cutter damaged. (g) Hull pierced in 14 places; No. 2 stack pierced in numerous places.	<u>Dead:</u> Navy 10 Army 3 <u>Seriously Wounded:</u> Navy 4 Army 7

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Ship	Cause	Extent and Location of Damage	Number of Casualties
HATSUYUKI	3 enemy shells. (Duds) (TN: lit. Blind shells)	(a) Director operates with difficulty at ranges of 7000 meters and over. (b) 8 telephones, voice tubes, etc., damaged. (c) Three spare torpedoes and their locker destroyed with 16 other items. (d) Antenna destroyed with 2 other items. (e) Shaft of forward rudder control mechanism bent; port engine telegraph shaft bent. (f) #4 boiler: port casing destroyed; blower casing pierced; port forward down corner tube bent. #3 boiler: main feed line pierced; in addition 19 other items. (g) Deck in the vicinity of (TN: torpedo) locker for #2 torpedo tube mount pierced and twisted. Torpedo and engineer storerooms, No. 5 crew's quarters pierced. A breach below the engineering storeroom. Upper yard on mainmast damaged.	<u>Dead:</u> --- Navy 1 Army 5 <u>Seriously Wounded:</u> Navy 1

5. Record of Torpedo Fire - see Annexed Table.

6. Battle Diagram - see Annexed Diagram.

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(ANNUAL TABLE)

Torpedo Firing Conditions during the KULA GULF Night Action

		FIRING SHIP		
		SUZUKAZE	TANIKAZE	AMAGIRI
Type of Torpedo	Type 93			Type 90
Number of Torpedoes Fired	8			5
Time of Firing	2357			0334
Target (Point of Aim)	#1 ship of CruDiv (3 ships) (between gun flashes of forward and after turrets)			#2 ship of CruDiv (3 ships) (at gun flashes)
Action Side	Starboard			Starboard
Same - opposite course	Same			Opposite
Method of Firing	Independent			
Firing	Track Angle	250° (TN: port 110°)		70° (TN: Stbd. 70°)
Point	Range (meters)	5000		5000
Enemy's Speed (Estimated)	20			
Evasions (estimated)	Away (Direct Course)			Toward
Sight Angle (Torpedo Speed)	15			10
Gyro Angle (斜進)	0			0
Torpedo Depth				
Torpedo Speed				
Results	One cruiser blown up and sunk; one destroyer sunk.			One cruiser sunk
Notes				

(TN: ERBATA in "Diagram of KULA Gulf Night Engagement, 5-6 July 1943"

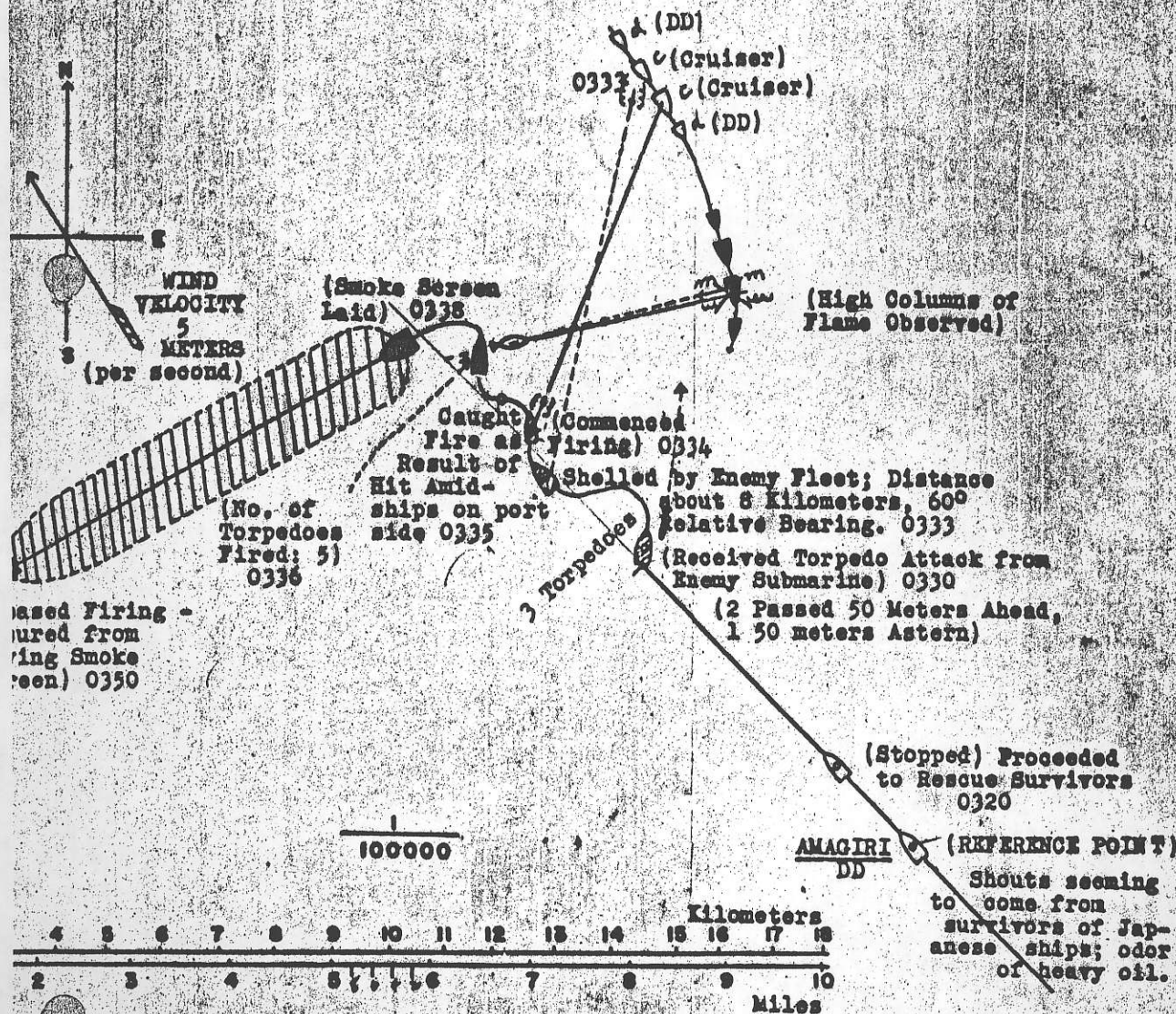
In this diagram, near the center of the page, four Japanese destroyers are shown steaming in column. A note appearing to the left of the destroyer column indicates that the rear ship, the SATSUKI, sustained damage to the rudder and reserve torpedo locker. However, judging by the position of the note in the original Japanese document, the damaged ship is probably the NAGATSUKI, rather than the SATSUKI.

DIAGRAM OF KULA GULF NIGHT ENGAGEMENT (AMAGIRI (DesDiv 11))

6 JULY 1943 FROM 0318
TO 0350

REFERENCE POINT: 7.5 MILES, BEARING 40°

FROM SHOULDER HILL ON KOLOMBANGARA ISLAND



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Part B. Night Action off KOLOMBANGARA Island (12-13 July 1943)

1. Participating Forces

a. Our Strength and Disposition:

	SUPPORT UNIT	TRANSPORT UNIT
Commander:	ComDesRon 2	ComDes Div 22
Strength	JINTSU (CL) DesRon 2 flag DesDiv 16 (YUKIKAZE flag) DesDiv 30 (MIKATSUKI flag) HAMAKAZE KIYONAMI YUGURE	SATSUKI flag MINATSUKI, YUNAGI MATSUKAZE

b. Enemy's Strength

7 Cruisers
2-3 Destroyers

2. Progress of the Battle

a. Ever since the enemy landed in the RENDOVA Island area he has continually reinforced his troops, bringing in supplies night and day with transports and sea trucks (海上トラック). The enemy conducts his transport to the KULA GULF area by running in fast transports at night under the protection of powerful surface units; at the same time, these units are hindering our transport.

b. In accordance with the OUTER SOUTH SEAS Force DESOPORD #362, DesRon 2 Force (JINTSU; DesDiv 16 (YUKIKAZE); HAMAKAZE; KIYONAMI; YUGURE; DesDiv 30 (MIKATSUKI)) sortied from RABAU at 0330 on 12 July 1943, headed for the northern waters of KULA GULF by way of SHORTLAND.

c. At 1840 our ships took position in Alert Cruising Disposition No. 1 (第一警戒航行序列) (MIKATSUKI, JINTSU, YUKIKAZE, HAMAKAZE, KIYONAMI, YUGURE, proceeding at 22 knots and expecting at any moment to encounter the enemy. At 1916, south of CHOISEUL Island, the JINTSU launched a float reconnaissance plane.

d. At 2308, four enemy ships, which appeared to be enemy cruisers, were sighted off the starboard bow. The JINTSU illuminated the target with searchlights, opened fire with guns and launched torpedoes, but was soon exposed to a concentrated enemy fire; so together with the MIKATSUKI, she ducked into a squall and disappeared to the east.

The YUKIKAZE, HAMAKAZE, KIYONAMI and the YUGURE commenced firing their guns and torpedoes at 2312. One ship blew up and sank; one was set afire.

e. Our destroyers, with the exception of the JINTSU, withdrew for a while into a squall to the northwest. After completing their (TN: torpedo) reloading they reversed course and proceeded at 2340 to the scene of the action. At 0002 they sighted three cruisers and two or three destroyers off the port bow. (This was a different enemy force from the first one but it was concluded that other forces had been added to the remainder of the first force.) Torpedoes were fired at 0005 (one ship blew up and sank; one caught fire and later sank). Our ships then withdrew to the northwest.

f. Not being able to locate the JINTSU, at 0043 we decided to return and arrived at SHORTLAND at 0515.

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3. Results

Blown up and sunk (torpedo attack)	2 cruisers
Sunk	1 cruiser
Set afire	1 cruiser

4. Incurred Damage

JINISU ----- Put out of action by concentrated enemy fire.
There was no other damage.

5. Torpedo Firing Record - see Annexed Table

6. Battle Diagram - see Annexed Diagram

(TN: Entry on diagram for 2125 should read "First contact on Radar detection device". (DENTAN TANCHI SOCHI KANDO ARI) It is possible for them to receive our radar at that distance, which is evidently an estimate.)

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(ANNEXED TABLE)

Torpedo Firing Conditions During the KOLOMBANARA Island Night Action

		FIRING SHIP			
		TUKIKAZE	RAMAKAZE	KIXONAMI	YUCURE
Phase of the Action		1st			
Type of Torpedo		Type 93			
Number of Torpedoes Fired		8	8	8	5
Time of Firing		2313	2314	2314	2314.5
Target (Point of Aim)		#2 ship of CruDiv	#2 ship of CruDiv	#2 ship of CruDiv	#3 ship of CruDiv
Action Side;		Starboard	Starboard	Starboard	Starboard
Same - Opposite Course		Opposite	Opposite	Opposite	Opposite
Method of Firing		Independent			
Firing	Track Angle	100° (TN; Stbd. 100°)	90° (TN; Stbd. 90°)	110° (TN; Stbd. 110°)	90° (TN; Stbd. 90°)
Point	Range (meters)	6000	6000	6000	6500
Enemy's Speed (estimated)		(28)	(25)	(24)	(25)
Evasions (estimated)					
Sight Angle		32	26	20	24
Gyro Angle		0	0	0	0
Torpedo Depth					
Torpedo Speed		3/1	3/1	3/1	3/1
Results		One cruiser blown up and sunk One cruiser set afire			
Notes					

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(ANNEXED TABLE)

Torpedo Firing Conditions During the KOLOMBANGARA Island Night Action

		FIRING SHIP			
		YUKIKAZE	HAMAKAZE	KIYONAMI	YUGURE
Phase of the Action		2nd			
Type of Torpedo		Type 93			
Number of Torpedoes Fired		7	8	8	3
Time of Firing		0006	0007	0007	0008.5
Target (Point of Aim)		#2 ship of CruDiv	#2 ship of CruDiv	#1 ship of CruDiv	#3 ship of CruDiv
Action Side;		Starboard	Starboard	Starboard	Starboard
Same - Opposite Course		Opposite	Opposite	Opposite	Opposite
Method of Firing		Independent			
Firing Point	Track Angle	310° (TN; Port 50°)	320° (TN; Port 40°)	50-60° (TN; Stbd. 50-60°)	310° (TN; Port 50°)
	Range (meters)	4000	5000	5000	4500
Enemy's Speed (estimated)		(20)	(19)	(12)	(18)
Evasions (estimated)					
Sight Angle		18	15	10	16
Gyro Angle		Port 30	0	0	0
Torpedo Depth					
Torpedo Speed		3/1	3/1	2.5/1	3/1
Results		One cruiser blown up and sunk One cruiser set afire, and later sank			
Notes		One torpedo impossible to fire. (YUKIKAZE and YUGURE)			

(TN: Gyro angle Port 30° under YUKIKAZE 2nd Phase of action can only be accounted for by a jammed tube.)

		FIRING SHIP	
		JINTSU	MIKATSUKI
Phase of the Action		1st	
Type of Torpedo		Type 93	8th Year Type

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Part C. Night Action off VILLA LAVALLA Island (6 August 1943)

1. Participating Forces

a. Our Strength and Disposition

	TRANSPORT UNIT	SCREENING UNIT
Commander	ComDesDiv 4	ComDesDiv 27
Strength	DesDiv 4: (HAGIKAZE, flag, ARASHI.) KAWAKAZE	DesDiv 27: (SHIGURE, flag)
Mission	1. Transport of men and material. 2. Annihilation of enemy naval units.	Escort for the Transport Unit (principally prepared for sudden attack by enemy torpedo boats, submarines and surface ships).

b. Enemy's Strength:

(1) 2 cruisers (From observations made by the SHIGURE on the fall of the enemy shells concentrated on the HAGIKAZE and ARASHI and on the number of large water spouts, there were presumed to be at least two cruisers in addition to the destroyer divisions).

(2) 7 destroyers (Because of the time interval and difference in movement of the 4 destroyers sighted by the HAGIKAZE and the 3 destroyers sighted by the SHIGURE, they were completely different units).

(3) Several torpedo boats (four confirmed).

(4) A few tracking planes (only one confirmed).

2. Progress of the Battle.

a. By previous arrangement, the Transport Unit and Screening Unit separated themselves from DesRon 3 (SENDAI) at 0930 on 6 August 1943 to act as transport express to KOLOMBANGARA. Vigilant against air attack they headed south along the East coast of BOUGAINVILLE. At 1430, while to the East of BUKA Island, they intercepted an urgent enemy operational dispatch sent to GUADALCANAL by what appeared to be a tracking plane.

b. At 2130 our ships prepared for a torpedo action and for engagement with the enemy on a moment's notice. In a single column (HAGIKAZE, ARASHI, KAWAKAZE, SHIGURE) and maintaining a sharp lookout, they dashed into VILLA GULF. (Visibility inside the gulf: to the East about 6 kilometers; to the West about 10 kilometers. The North coast of KOLOMBANGARA was shrouded in fog.)

c. At 2142 the HAGIKAZE saw a black form bearing 300° (TN: bearings relative, given in original as Port 60° etc.) at about 6 kilometers. Thereafter, one after another, the ARASHI sighted a torpedo boat bearing 290°, the KAWAKAZE a torpedo boat bearing 60°, and the SHIGURE sighted what appeared to be the wake of an enemy ship at a bearing of 300°. At 2143 the HAGIKAZE recognized the above black form as a destroyer on opposite course; looking further, the above was observed to be 4 enemy destroyers, turning simultaneously to starboard (track angle 200° (TN: Port 160°) 5.5 kilometers). At 2143.5 the SHIGURE recognized the wakes of three enemy destroyers in single column on opposite course. (This was decided not to be the same DesDiv as that seen by the HAGIKAZE.) The orders, "Torpedo action to port; opposite course," and "Gunnery engagement to port," were given.

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e. The SHIGURE, seeing the ARASHI and KAWAKAZE hit by torpedoes, concluded that there was a large enemy force and fired torpedoes at the #2 ship in the enemy destroyer division.

g. The SHIGURE had planned to rejoin the HAGIKAZE, but seeing the enemy torpedo boats successfully firing on our destroyers as well as tracking planes overhead, she feared encirclement by the enemy, so she abandoned her plan to join the HAGIKAZE, and withdrew to reload her tubes. At 2149 she noticed our torpedoes hit an enemy ship and explode. At 2209, having completed reloading, she turned about, but failing to find the enemy, withdrew.

One destroyer sunk (torpedo hit).

		SHIGURE
Phase of the Action		1st
Type of Torpedo		Type 93
Number of Torpedoes Fired		8
Time of Firing		2145.5
Target (Point of Aim)		#2 ship of DosDiv
Action Side Same - Opposite Course		Starboard (TN: sic) Opposite
Method of Firing		Independent
Firing	Track Angle	270° (TN: Port 90°)
Point	Range	5000-6000 (meters)
Enemy's Speed (estimated)		(26-28)
Evasions (estimated)		.
Sight Angle		14
Gyro Angle		0
Torpedo Depth		
Torpedo Speed		
Results		One destroyer sunk.
Notes		

5. Battle Diagram - see Annexed Diagram

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Part D. Night Action off VELLA LAVELLA Island (17-18 August 1943)

1. Participating Forces

a. Our Strength

DesDiv 17:

(HAIKAZE, flag; ISOKAZE)

b. Enemy's Strength:

About 5 destroyers

2. Progress of the Battle

a. DesDiv (HAIKAZE, flagship; and ISOKAZE) departed RABAU at 0300 on 16 August 1943 as the escort unit for a convoy of barges (TH: SHUTEDAN) reinforcing VELLA LAVELLA Island.

b. At 0430 took position in Alert Cruising Disposition No. 2; a strict lookout was also maintained against submarines and aircraft while passing through the waters northeast of BOUGAINVILLE.

At sunset we were within 300 nautical miles of RUSSELL Island headed for the waters north of VELLA LAVELLA; although occasionally encountering squalls, the visibility was good.

c. At 1653 took positions in Alert Cruising Disposition No. 1. At 2100 joined the barge convoy, screening ahead and to the east, maneuvering as necessary.

d. For about an hour after 2058 we were bombed and tracked by about 5 enemy planes (lasthead bombing) (TH: 炮火襲撃).

e. At 2235 about 5 enemy destroyers which were proceeding north from VELLA GULF were sighted bearing 150°, 9 kilometers.

f. At 2237 we parted company with the barge unit and took position in Battle Disposition No. 1.

g. At 2248 HAIKAZE fired (eight torpedoes).

At 2250 the ISOKAZE fired her first salvo (of seven torpedoes). After this both sides opened up with their guns.

h. At 2303 the #2 enemy ship was seen to blow up and sink.

i. At 2310 the ISOKAZE fired her second salvo (of seven torpedoes).

j. The enemy was engaged until 2320 and at 2325 we decided to return.

3. Results

One destroyer blown up and sunk.
Two destroyers hit many times by shells.

4. Damage incurred.

Our fighting strength was unimpaired.

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CHAPTER II

EXTRACTS FROM EACH UNIT'S IMPRESSIONS OF THE CHARACTERISTICS (TACTICS) OF THE AMERICAN FORCES

(The note in parentheses indicates the source and the naval action or operation referred to)

Part A. Tactics in General

1. Judging from our experience in this recent night action, the enemy will proceed directly and calmly on same course at 5 to 7 kilometers /distance/. (TANIKAZE; KUL; GULF night engagement of 5-6 July).

2. a. The enemy's plane reconnaissance and patrol is extremely thorough and vigilant; within a very short time our plans are known. When-
over we come out with a large force, the enemy does not come out to attack with a surface force, but plans for an air attack. If the enemy sees we are not coming out, or only with a small force, he usually appears with a large surface force.

b. The enemy carries out courageous and well-timed night torpedo attacks (aerial torpedoes).

c. It is certain that the enemy tracking planes use Radar. (Hence, with a Radar detection device (TN:電探機) we will be able to detect them accurately.)

(TUKIKAZE, KIYOMIZU, YUGURE; NE/ GEORGIA area.
diversionary action of 18-20 July 1943.)

3. a. The enemy's patrol and tracking was so thorough that ships leaving RABUL were usually tracked without fail inside a few hours, thus revealing the purpose of our operation.

b. When the HAGIKAZE was bombed by seventeen B-17's (without being hit once) on 27 July, the enemy planes first deployed themselves in a single line abreast and then bombed. The enemy tracking planes usually operated between the extreme range of our destroyers' main batteries and the limit of our visibility, appearing and disappearing near the horizon. Whenever there was an opportunity, they would often make a bombing attack.

(DesDiv 4; REKATA base transport operation of 27 July.)

4. The enemy was well informed in advance of our plans through his careful and exhaustive daytime air reconnaissance. Then after thorough planning he checked our reinforcement and transport operations with planes, surface craft and torpedo boats.

(DesDiv 11; KOLUBANKARA transport operation of 1-2 August.)

Part B. Torpedo Engagements

1. It has been ascertained that the enemy is using an acoustic torpedo of the controlled-laid type (敵機雷). (敵機雷).

a. Bearing 25°, 7 miles from HILLYOON (TN:ヒルヨーン; probably in SHILU-LINDANAO area) it was encountered and recognized as an acoustic torpedo of the controlled-laid type. Two of these torpedoes exploded at a very close distance but caused no damage.

b. This is a very small type torpedo with a diameter of 45 cm. and a total length of 5 meters. (According to eye-witnesses, who saw it while it was traveling through the water before exploding.)

c. One (of these torpedoes) was seen by the I-162 (SS) coming broad off the port beam heading for her propellers from 100 meters away. Although the torpedo track was not distinct like that of an ordinary torpedo, it was possible to distinguish it. Its depth was calculated as 3 meters and the distance run before exploding as 300 meters. Judging from the explosion, the bursting charge was estimated to be less than 150 kilograms.

d. This torpedo is thought to be an acoustic torpedo of the controlled-laid type and most certainly not one used by a submarine in a torpedo attack for the following reasons: it is a very small torpedo; on the south coast of HONSHU Island, during the attack, suddenly three white smoke signals were sent up at equal intervals; the fact that on the northern coast of HIBUSON Island there are white beacons which can be used for target calculations; the fact that no periscope was seen; and the fact that no sound of a submarine could be perceived after the attack even though anti-submarine measures were taken.

e. There is a suspicion that the target calculations and firing control is carried out on HIBUSON Island.

f. During the passage of the I-162 from SULUW Island to DENISO Point, it seems that the enemy was maintaining communications with rockets by day and with lights by night.

(I-162)

2. The tracks of enemy torpedoes with magnetic detonators can clearly be recognized at night.

(DSDiv 4; night action off VELL; L.VELL. of 6 August.)

Part C. Gunnery Engagements

1. a. Radar is used a great deal and has been adopted in firing tactics. That is,

(1) They open fire without illumination, firing from a long distance (around 15 kilometers) under conditions where recognition is difficult and visibility poor.

(2) Following the first shot they fire very rapid salvos.

(3) The accuracy of their calculations (at night) is very good and from the first shot they are not only able to get good results but also even in a smoke screen, the fall of their shells is effective.

(4) Even though the deflection is off (TH: 20 000) there is hardly any error in range and shells fall constantly very close or in straddles.

b. We can infer that in their main battery they have speedy and accurate aiming and loading equipment which uses ingenious and elaborate mechanical power, since the rate of fire is very great (salvo interval 4 to 6 seconds). Moreover the zone of dispersion is very small.

c. It has been observed that they even use colored tracers in the main battery shells.

d. Omitted.

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e. In the final moments of the battle they use star shells to ascertain the results and the condition of the enemy. In both the first and second battles the JIJIGARI observed that they fired star shells at the final moment and after that fired no more.

f. They very much fear our torpedo strength and as a precaution, when they know that we have launched, they are very apt to suspend effective gunfire in order to escape.

g. The main battery of an enemy cruiser paints a trajectory of colored tracer shells at a range of seven or eight kilometers. Not only is the height of the trajectory considerable, but also they have a considerably large angle of fall as was observed aboard the JIJIGARI from the impact of these shells on her forward deck.

(The above came from DesDiv 11; 5,6 July at the night action at KULA GULF.)

2. a. From the accuracy of the night firing of the BROOKLYN Class Cruiser, it has been assumed that they have radar fire-control equipment. At a firing range of about 5000 meters, the accuracy of the first shell was followed by continuously effective shell fire.

b. The enemy cruiser (judged to be of the BROOKLYN Class which is published by the enemy as in the HELENA Class) hit the landing ship, the NITZUKI, with the first shell, firing without illumination at a range of 6000 meters. After that they fired shells with the rapidity of a machine gun.

c. The shelling mentioned above was tracer (red color) firing, without illumination and the zone of dispersion was extremely small.

d. Omitted.

(The above came from DesDiv 24; 5,6 July, KULA GULF night action)

3. In enemy radar firing, the shells usually fall quite close, but their zone of dispersion is small and the rate of their fire is very fast. It is wondered whether or not, in alternate firing (TN:交互打撃) the range correction is obtained by radar and the deflection correction by shipboard spotting.

(DesDiv 16; 12,13 July; night action off KOLOMBANGARA Is.)

4. a. The enemy gun flash is small compared to our ships' fire, being pale and less blinding. Sometimes (blue) tracers are seen. The interval between salvos is very small and it has been observed that they use alternate firing.

b. (The enemy) carries out fierce, concentrated fire upon our damaged ships which have caught fire.

c. After receiving a torpedo attack in the night action off VELLA LAVELLA Is. on 6 August, the enemy gunfire was very fierce but their rate of hits was not very good.

d. The supplying of flashless gun powder (TN:消焰火藥) is a pressing necessity.

(From DesDiv 4; 6 August, VELLA LAVELLA Is. night action.)

5. The enemy usually opens up its night radar-controlled fire at about seven or eight kilometers. The accuracy of enemy fire within seven kilometers is very good.

(DesDiv 17; 17, 18 August, VELLA LAVELLA Is. night action.)

(END)

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DIAGRAM OF NIGHT ENGAGEMENT OFF VELLA LAVELLA ISLAND 6 AUGUST

(ENEMY STRONGTH ESTIMATED)

WEATHER: CLOUDY

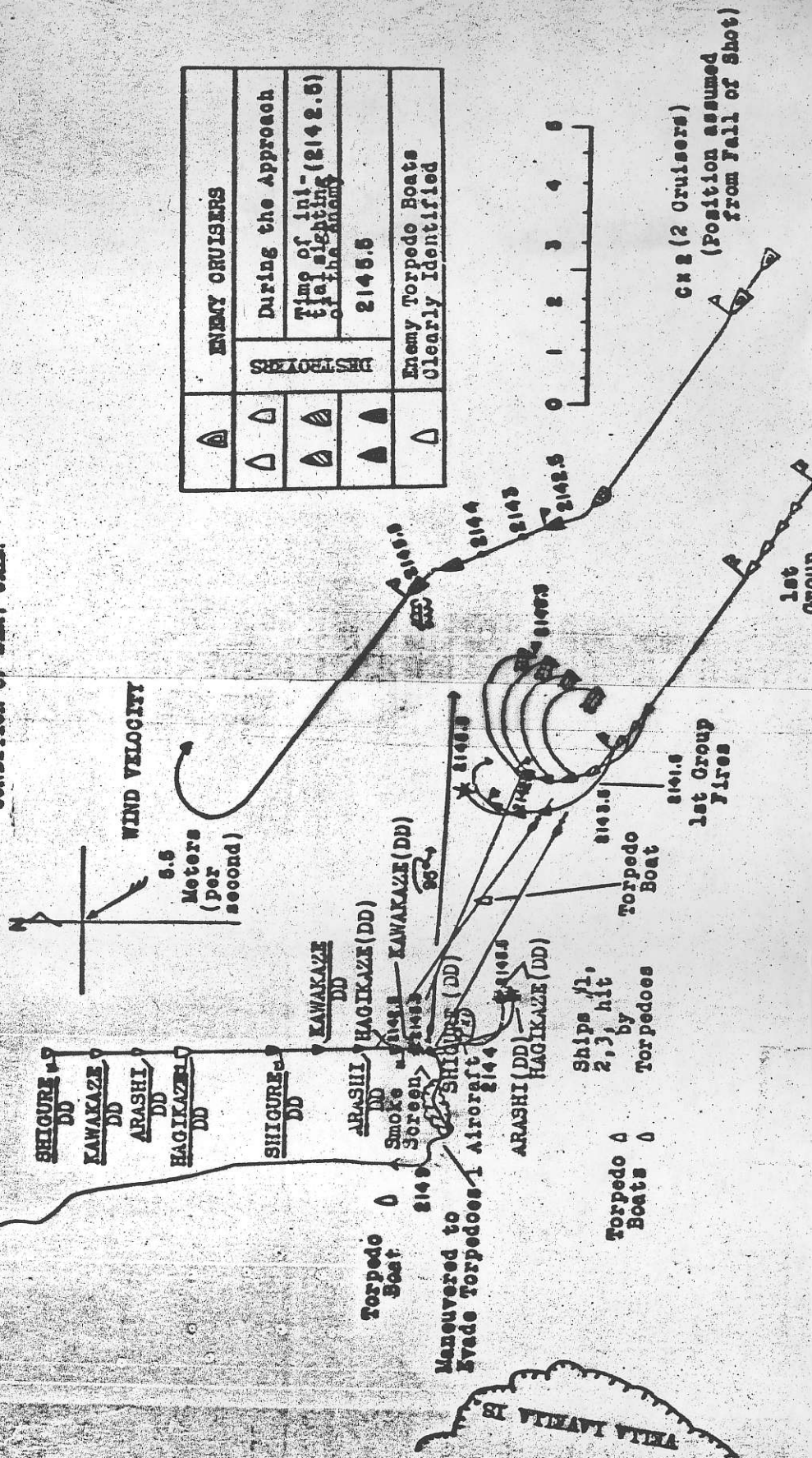
DIRECTION OF WIND: SOUTHEAST

WIND VELOCITY: 5.5 METERS (per second)

AGE OF MOON: 7

10 KILOMETERS WEST } VISIBILITY
6 KILOMETERS EAST }

CONDITION OF SEA: CALM



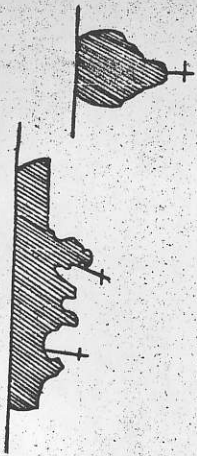
(1) ~~unhappy~~ identified by Searchlights of FINSE (U).
During 1st Engagement (3rd Ship)

Observed at an angle of 70°
form of furrows not determined; probably of Portland class.
Set on file by Topedo Hlt.



Observed at an angle of 60°
High Freeboard.

low in comparison with 2nd subg?
thought to be CL.



(3) Heavy Cruiser (sm). Scopped by the 2nd Torpedo Sq. to.
Assembled Orduib & Class.
3 Gun Turrets in Main Battery.



Close Resemblance to
Characteristics of Grady G.
(TM: Philadelphia, Brooklyn,
Savannah)

FROM: 12 JULY 1963
TO: 13 JULY 1963



Ship Name	Lat	Long
WIKKEE (DD)	2313	0006
BALWAZE (DD)	2314	0007
KITONAKI (DD)	2314	0007
YOGURE (DD)	2314.5	0006.5

TOFFI DO SALVO

By JAMES (CL)
Reconnaissance
Seaplane.

Bearing 20°. Distance 1
11 Miles from Vauvieux
Point. Course 290
Speed 20.

A Enemy Ship
Sighted 2257
2300
Bearing 200, Distance
11 Miles From Tashir
Point. Course 290
Speed 20.

Explosion D.D.
See on fire!
Silhouette sighted
relative bearing 100°
2305

Entered
2317

1st 5 inch (CL) Fired
1st 3 inch
2nd 3 inch
1st Searchlight
2nd Searchlight
1st Shell fired
2nd Shell fired
1st Salvo
2nd Salvo
1st 5 inch (CL) Fired
1st 3 inch
2nd 3 inch
1st Searchlight
2nd Searchlight
1st Shell fired
2nd Shell fired
1st Salvo
2nd Salvo

JICPCA Item No. 5782

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REPORT OF SIGHT OBSERVATIONS OF KAWASAKI SHIPS

Form 12 JUL 1943
101 13 JUL 1943

NO. 17 JULIAN (JULY 16)
Observations of JINSEI (OL)
and ship)
angle of 70°
Probably of Foreland class.
torpedo hit.



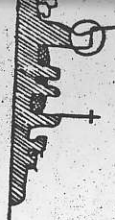
and height.
size of 600

In Comparison with 2nd ship;
light to be OL.
After 2nd salvo.



by the 2nd Torpedo Salvo.

one resemblance to
characteristics of Grady A.
Philadelphia, Brooklyn,
Savannah.

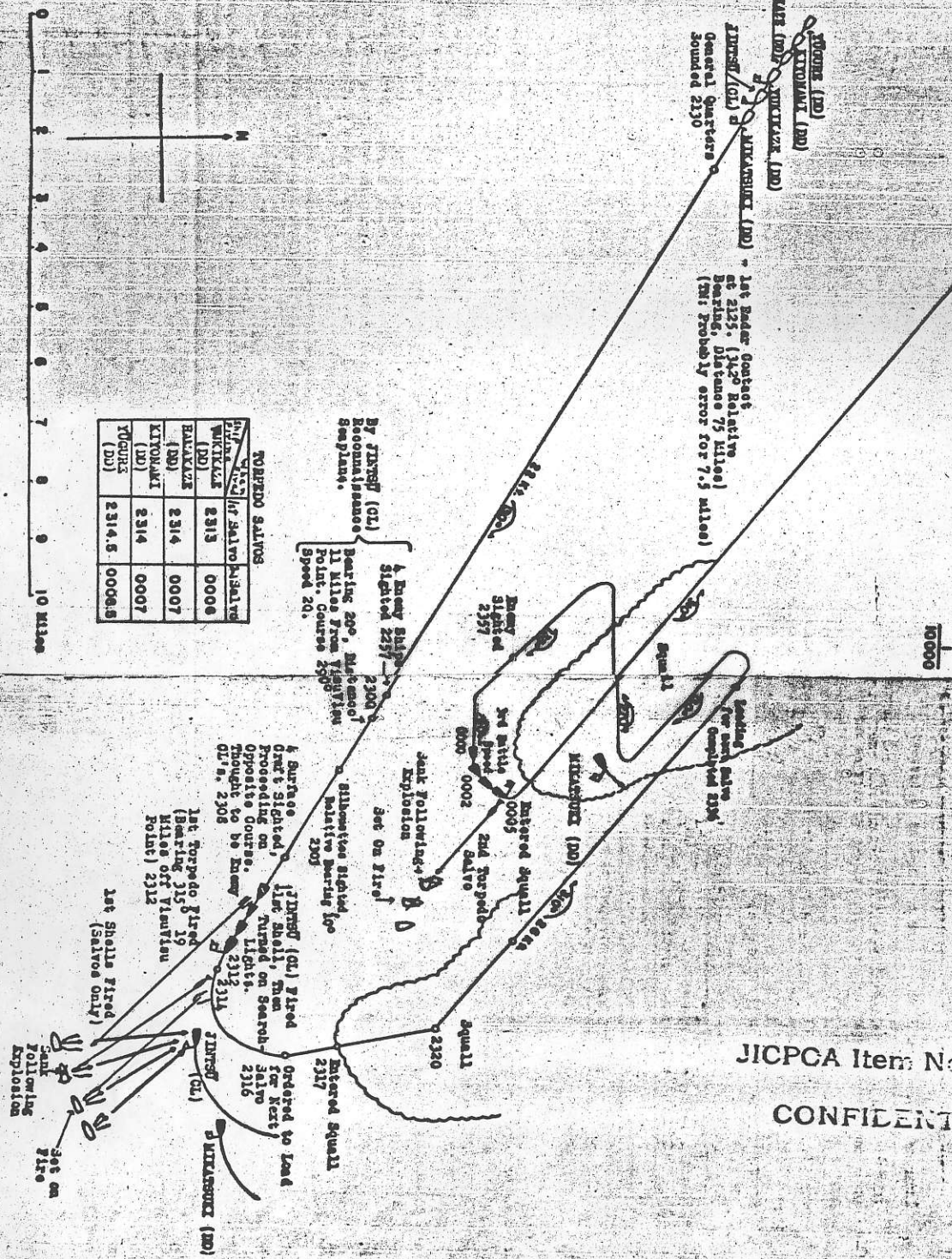


2000E (LD)
KAWASAKI (LD)
JINSEI (OL) - 1st Radar Contact
at 2125, 142° Relative
Bearing, Distance 7.5 miles)
(1st: Probably error for 7.5 miles)
Sounded 2130

10000

TORPEDO SALVOES	TIME	BEARING	DISTANCE
WATKINS (LD)	2313	0006	
BLAKELY (LD)	2314	0007	
KITOMAKI (LD)	2314	0007	
YOKURA (LD)	2314.5	0008.5	

By JINSEI (OL)
Reconnaissance
Sighted 2237
Bearing 20°, Distance
11 miles from sight
Point, course 250°
Speed 20.



JICPCA Item No. 5782

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