

The Naval Battle of Guadalcanal

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Edited by Tony DiGiulian

For eleven months during 1942, the carrier fleets of the United States and Japan had fought each other to a draw. A war of attrition had reduced each side to one operational carrier, *Junyo* for Japan and USS *Enterprise* for the United States. The stalemate at Guadalcanal had tied the great fleets to the South Pacific. By so doing, the U.S. carriers broke one of the pre-war principles of not being attached to an invasion which prevented their ability to roam. Carriers attached to a geographical location were easy to locate and sink. This prewar thinking was proved correct when during the Guadalcanal Invasion the United States lost two more fleet carriers in USS *Wasp* and USS *Hornet* and had a third crippled in *Saratoga*.¹

Yet the question of who would control Guadalcanal remained. The commander-in-chief of the Japanese Combined Fleet, Grand Admiral Yamamoto Isoroku, would attempt to regain Henderson field one more time in early November when he attempted to bring in the 38th Division of the Japanese Army. This would result in the Naval Battles of Guadalcanal fought from November 13-15, 1942. The Japanese aim remained the same as in the previous three months: To bring in reinforcements to Guadalcanal and sweep any enemy naval units from the area. Adm. Yamamoto and his staff focused on Henderson field as the most important geographical area to secure for victory, but this was not the most important geographical area.

The most critical geographical area was Iron Bottom Sound. Whoever controlled the sound can suppress the airfield and reinforce the army ashore while denying access to Guadalcanal to the enemy.² Admiral Yamamoto would once again send two battleships with a large screen to bombard Henderson field. This time it would be Admiral Abe's *Hiei* and *Kirishima*. In addition, the battleships *Kongō* and *Haruna* would serve as distant cover with *Junyo*. Yamamoto was still on the offensive, choosing

¹ In 1937 Captain Richmond K. Turner as a faculty member of the Naval War College, gave a lecture entitled "The Strategic Employment of the Fleet." Turner gave three areas carriers could be decisive. The first was to conduct raids and this was the foundation of strike warfare. The second was based on the principle of security. Carriers could gain important information on the enemy and prevent them from doing the same for friendly forces. Recon or scouting missions were assigned to specific dive bomber squadrons on the carriers and not to surface ship float planes. This marked a significant difference in how the two opposing carrier fleets operated. The third was to carry a threat of permanency or future operations, so that an enemy would never feel safe in his rear areas and would have to expend resources to defend these rear areas. Feint operations would be required as aircraft range increased. Aircraft could reach many adjacent islands even if they were geographically separated by hundreds of miles. Suppressing these airfields that were within range of an objective island would play important roles in keeping the enemy from ascertaining the true objective but also diminishing the enemy's mutual support from these airfields.

² The concept of seizing advanced bases in direct support of the navies' goals was a direct application of Mahan's sixth principle in a Government developing policies in favor of sea power. Blockade especially strategic level blockade required the forward deployment of the fleet. It was an exhausting goal and required a huge logistical support network in order to achieve efficiency. The beginning of what would become the U.S. Marine Corps amphibious doctrine was being born out of the need for advance bases to support the battle-fleet and its ability to maintain strategic level blockade. However, Operation Watchtower was conducted prior to the logistical arm being ready to support such a high level of forward deployment.

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November 14-15 to reinforce the Japanese Army using eleven transports of 77,606 tons with supplies for 30,000 men, 31,500 artillery shells, and 7,000 troops. Admiral Tanaka would command the transport force with eleven destroyers. The first part of the operation would be to bombard Henderson field on November 12-13. This force consisted of the battleships *Hiei* and *Kirishima*, the light cruiser *Nagara*, and the destroyers *Ikazuchi*, *Inazuma*, *Akatsuki*, *Yudachi*, *Harasame*, *Amatsukaze*, *Teruzuki*, *Yukikaze*, *Asagumo*, *Murasame* and *Samidare*. A Japanese appreciation prepared in late October observed:

*"It must be said that success or failure in recapturing Guadalcanal Island and the vital naval battle related to it, is the fork in the road which leads to victory for them or for us."*³

Admiral Turner had recently resupplied the Marines and left behind a significant portion of his screening forces to confront the Japanese forces when he withdrew. Now designated as Task Force 64, this was under the command of Admiral Callaghan in the heavy cruiser *San Francisco* and Admiral Scott in the light cruiser *Atlanta*. The rest of the task force consisted of heavy cruiser *Portland*, light cruisers *Helena* and *Juneau*, and destroyers *Cushing*, *Laffey*, *Sterrett*, *O'Bannon*, *Aaron Ward*, *Barton*, *Monssen* and *Fletcher*.

During the night of November 12, Admiral Abe's force had to endure a tropical storm that made visibility very low as it closed on Savo Island. The storm also broke up his formations. As they began to enter the sound early on the morning of November 13, Admiral Abe was unsure of where all his ships were and the visibility remained very low. Admiral Callaghan in the *San Francisco* made the same error that Admiral Scott did in the Battle of Cape Esperance by not placing his flag on the ship with the most advanced radar. As messages began to come in, they did more to confuse him than help him. The two forces collided and when at 01:48 *Hiei* and *Akatsuki* opened their search lights on the cruiser *Atlanta*, the range from the battleship to the cruiser had been reduced to 4,500 yards. *Atlanta* opened fire on *Akatsuki* almost immediately and in return *Hiei* fired a main-gun salvo at *Atlanta*, wrecking her forward gun battery. Quickly thereafter, *Atlanta* was crippled by a torpedo hit from one of the Japanese destroyers and absorbed over fifty shell hits, leaving her dead in the water. Some of these hits were from *San Francisco*, one of which killed Admiral Scott. *Laffey* avoided a collision with *Hiei* by only a few feet and then raked her superstructure and bridge only to be torpedoed and then raked by *Kirishima* as she passed *Hiei*. Admiral Abe was wounded and ordered an immediate withdraw and cancelled the bombardment mission. *Hiei* was hit on her forward lookout platform, anti-aircraft platform, machine gun platform, radio room, and bridge. Fires were ignited and her pagoda superstructure acted as a huge smokestack drawing the flames up.

Kirishima passed the *San Francisco* on her starboard side, smashing her with her main and secondary guns and killing Admiral Callaghan. The light cruiser *Nagara* passed *San Francisco* on her port side firing simultaneously with *Kirishima*.⁴ *Portland* was struck by a torpedo that jammed her rudders causing her to circle. *Barton* was cut in half by a torpedo and quickly sank. The light cruiser *Juneau* was hit by a torpedo that broke her back, but she remained afloat. *Cushing* was sunk and *Helena* was hit six

³ Franks, Richard B., *Guadalcanal*, Page 492.

⁴ U.S.S. *San Francisco* Action Report, November 12-13, 1942 pages 6-8. Hit two came from a 14-inch Type 0, Hits 5-6 came from a 14-inch Type 3 and hit 7 was likely a 14-inch Type 0 that killed Admiral Callaghan. The *Kirishima*'s action report claimed four main caliber hits on the first cruiser.

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times by 14" gunfire, likely from *Kirishima* which claimed hitting a second American cruiser. *Helena* hit *Kirishima* aft with one 6-inch projectile which resulted in minimal damage.⁵

At 1100 Japanese submarine I-26 fired a spread of torpedoes at *San Francisco*. These missed but continued past the cruiser and now headed for *Juneau* which was 1,500 yards off the *San Francisco's* starboard side. There was no means on board *San Francisco* to pass warning and *Juneau* with a broken back and limited to 18 knots probably could not react in time even if warning was given. One torpedo stuck very close to where she had had her back broken and *Juneau* simply disappeared in a massive explosion. When the smoke cleared, she had sunk along with 700 men of her crew including the five Sullivan brothers all serving on the same ship. Captain Hoover of *Helena* was now in command of U.S. forces and had to make a gut-wrenching decision. Captain Lyman K Swenson of *Juneau* was a close friend of Captain Hoover and humanity dictated an effort to rescue survivors. Hoover made the tough choice to continue. *San Francisco* was in bad condition and his own ship too valuable to risk. Hoover felt leaving one or both of his destroyers would only endanger more ships and crews. This decision would cost him his command.

When *Hiei* attempted to withdraw, an 8-inch salvo hit in her stern just aft of her steering compartments. This was where during her 1930s modernization she had her stern lengthened by 30 feet. Water entered the motor room to her rudders which shorted out. Manual steering was immediately applied but communication with the bridge had been cut off so the men did not know what direction the ship should take.⁶ *Hiei's* crew placed the rudders on the centerline but then flooding of the manual steering compartment made this impossible and the rudders slammed hard to starboard as the crew vacated the rapidly flooding compartment. In addition, there was an unexploded shell aft wedged into her hull. *Hiei* circled to starboard only 1000 meters from Savo Island. *Kirishima* left her sister as ordered and headed north.⁷

As the sun rose at 0407 the next morning, the situation in Iron Bottom sound was that *Aaron Ward*, *Atlanta* and *Portland* on the American side and *Hiei* and *Yudachi* on the Japanese side were crippled and remained on the scene. Surviving and damaged ships on both sides were withdrawing to safer waters. Shortly after daybreak, *Hiei* saw the crippled destroyer *Aaron Ward* at 24,000 meters and opened fire. After four salvos the American destroyer had disappeared. *Hiei's* captain told the crew the enemy warship had been sunk to raise the crew's morale.⁸ At 0505 twenty aircraft attacked and scored two bomb hits and one torpedo hit. The bombs wrecked her boat deck and the torpedo hit amidships

⁵ U.S.S. *Helena* Action Report, November 15, 1942 page 14. Hit #4 on turret 4 faceplate. This is an example of a 14-inch Type 0 HC projectile impact on face hardened armor that can be compared to the damage inflicted on the third turret barbette of the *South Dakota*. The 12-inch diameter indentation is the diameter of the nose due to the curvature of the projectile. The nose fuse detonates the shell so quickly it does not have time to advance to its full diameter. The 11/64 inch is all you can expect of a nose fused projectile which detonates instantly. They have virtually no armor penetration capability at all. The barbette on *South Dakota* is three times the thickness of *Helena's* faceplate. It is physically impossible for this type of projectile to gouge to a depth of 1.5" into a class A plate which is what happened on *South Dakota*. Nathan Okun deserves congratulations for determining the impact on *South Dakota* came from a 14-inch armor piercing Type 1 projectile. For more information on the damage suffered by *South Dakota* during the Guadalcanal battle, please see [South Dakota Damage Analysis](#).

⁶ Kazuyoshi, Miyazaki, *Tragedy at Savo, The Hiei under concentrated fire*, Page 3.

⁷ Kazuyoshi, Miyazaki, *Tragedy at Savo, The Hiei under concentrated fire*, Page 4.

⁸ In reality, *Arron Ward* escaped further damage and was towed away from the scene by the tug *Bobolink*.

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did not cause significant flooding.⁹ *Kirishima* was ordered back to help tow *Hiei* and she turned around at 0950. B-17s attacked *Hiei* without result. The third air attack resulted in another torpedo hit that blew part of her bulge up over her gunwale and flooding her forward windlass room. With each air attack she was forced to get underway again and the aft steering compartments would re-flood, compromising all efforts to get the rudders unjammed and remove the unexploded projectile. Admiral Abe had enough and decided to have *Hiei* scuttled. Her captain refused the order initially but eventually gave the order to abandon ship. The crew vacated the ship in an orderly fashion to waiting destroyers. She was listing 10 degrees to starboard. Once the crew was off, the captain ordered a few men to flood the ship's shell magazines and leave the ship open. She would eventually founder on her own. At some point before 2300 hours she disappeared.

Admiral Abe's decision to immediately withdraw and cancel the bombardment was an extremely poor decision. Sometimes a good offense was the best defense. In this chaos the Japanese could have gained control of the sea and bombarded Henderson field making the morning air attacks on *Hiei* impossible. This very well may have saved *Hiei* but the immediate withdraw of most of the Japanese forces left the damaged battleship unsupported except for a few destroyers. With the bombardment mission unfulfilled another battle to gain command of the sea was required. Admiral Mikawa with the *Chokai*, *Maya*, and *Suzuya* bombarded Henderson field on the night of November 13-14 unopposed. They fired 1,370 shells at the field but were unable to suppress it completely. *Enterprise* aircraft attacked Admiral Tanaka's transports sinking seven of the eleven transports. With four transports continuing south, Admiral Yamamoto ordered Admiral Kondo with *Atago*, *Takao* and *Kirishima* to once again bombard Henderson Field. The use of widely separated covering forces in the age of air power did nothing to protect Admiral Tanaka's transports. Planes could simply bypass the covering forces and attack the strategic target directly. Sinking slow transports was far easier than sinking battleships or other warships. *Junyo* could not provide enough fighter protection to cover her own task group and all these widely separated forces.

⁹ The *Kongō* class had five liquid loaded compartments of fuel amidships and outboard her boilers rooms. If these were ruptured, she would not have lost any reserve buoyance.

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To counter this threat, the South Pacific Area Commander, Vice Admiral William "Bull" Halsey, stripped *Enterprise* of her battleship screen and created Task Force 64 under Vice Admiral Willis Augustus "Ching" Lee Jr. consisting of the battleships *Washington* and *South Dakota* escorted by four destroyers to stop Admiral Kondo and control Iron Bottom Sound. This was a tactical blockade of Iron Bottom Sound. Admiral Lee had difficult circumstances as none of his ships had ever worked together. This was important to the principle of cooperation and impacts flexibility. The destroyers were deployed in a line a head formation with each destroyer separated by 500 yards. This was a simple formation which allowed the inexperienced destroyer commanders to stay grouped together. Cdr. Thomas Fraser in the *Walke* was placed in command of the destroyer screen simply due to the fact he was senior to the other destroyer captains. *Benson* and *Preston* lacked radar and so were placed in the middle with *Gwin* last in line. *Gwin* was designated to fire star shells and illuminate enemy forces. Admiral Lee placed these ships 5,000 yards ahead of his battleships which were separated from each other by 2,000 yards. This force would steam in a clockwise course first to the west through Iron Bottom Sound and then north around Savo Island, then down its eastern shore heading south and then back again to the west, thus patrolling both entrances to Iron Bottom Sound. Lee's role as the officer in tactical command was that of a coordinator at the head of a collection of independent formations.

Success would depend on his subordinate officers' understanding of the general plan and their role within this plan; however, they were to use their own initiative to fight towards a successful conclusion. Admiral Lee's intelligence reports had sighted an enemy force of one carrier, one battleship, two heavy cruisers and four destroyers about 150 miles north of Florida Island at 0800. Another force was sighted consisting of two battleships, one light cruiser, and eleven destroyers at 0815 of November 14. At 1700 four Japanese heavy cruisers, 1 large destroyer and 10 regular destroyers were sighted 130 miles north of Florida Island and closing Indispensable Strait at seventeen knots. From these reports Lee understood his force would likely be outnumbered. What resulted was the first battleship vs battleship action of the Pacific and the only one where the U.S. Navy engaged with her most modern battleships against the Japanese. Lee had the simpler objective. He simply needed to deny access to the Japanese so they could not get in range of Henderson Field. If the opportunity came about and Admiral Tanaka's last four transports came into range then Lee would destroy these transports.

Many officers disagreed with this decision due to the geographical terrain. The restricted waters took away the greatest advantage battleships had in out ranging an opponent. It would be difficult to spot and maintain fire due to the proximity of the various islands. The U.S. Navy considered any action less than 17,000 yards to be nothing short of a brawl. The restrictive waters within Iron Bottom Sound greatly reduced the likely battle ranges and the battleships would almost certainly be subjected to torpedo attack and fast firing guns from the escorting Japanese cruisers and destroyers. Yet, despite these facts, the land always dictates where a battle needs to be fought. The failure of the U.S. Navy to stay forward deployed at Guadalcanal had placed the Marines at risk. Halsey's decision was largely based on not abandoning the Marines. If *Enterprise* had to be stripped of its anti-aircraft protection, then so be it. The loss of so many cruisers on November 12 dictated that *Washington* and *South Dakota* were the only ships in range capable of stopping the bombardment. With this said, they could not stop

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Admiral Mikawa's bombardment on the night of November 13-14, but U.S. forces simply got lucky that this bombardment was largely unsuccessful.

Yamamoto was obsessed with Henderson field, but this was not the critical geographical area that needed to be controlled, Iron Bottom Sound was the critical geographical area. Neither the Marines nor the Japanese Army could occupy this location, yet it was the key to the island's defense. Whichever side gained and maintained control of this seaway would gain access for their side to re-supply their army and deny its use to the enemy. Yamamoto had superior surface forces at his command, yet he never developed a plan to bring overwhelming force to bear and place Guadalcanal under siege to block U.S. access to the island. For example, *Kirishima* briefly joined her sisters *Kongō* and *Haruna* providing distant cover for *Junyo* on November 14. All three battleships could have been sent to Guadalcanal, but Yamamoto decided to only send *Kirishima*.¹⁰

Admiral Kondo had the more difficult objective. He not only needed to gain command of the sea and bombard Henderson field but he also had to provide distant cover for Admiral Tanaka's last four transports and prevent any interference by U.S. forces to this supply group.

¹⁰ The battleships *Kongō* and *Haruna* are largely outfitted for a surface action so most of their projectiles are armor piercing which were not well suited for a land bombardment. This is the reason they were not included in the Bombardment Unit. My point is that before you can conduct a bombardment, you must establish control of the sea and despite having superior resources available, Admiral Yamamoto did not take advantage of these resources.

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Japanese Forces

Bombardment Unit

Vice Admiral Kondo Nobutake

Atago (F), Takao, Kirishima (Captain Iwabuchi Sanji), Nagara (flagship of ComDesRon 10, Rear Admiral Susumu Kimura), Ikazuchi, Samidare



Vice Admiral Kondo Nobutake

Direct Escort Unit

Rear Admiral Tamotsu Takama

Asagumo (F), Shirayuki, Hatsuyuki, Teruzuki

Sweeping Unit

Rear Admiral Shintaro Hashimoto

Sendai (F), Ayanami, Shikinami, Uranami



The *Kirishima* (rear) heads towards Guadalcanal to bombard Henderson Field on November 14, 1942 along with the *Takao* (center) and the *Atago* (foreground). This is the last known photograph of the *Kirishima*.

U.S. Naval Historical Center photograph

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U.S. Forces

Screen

Cdr. Thomas Fraser (also CO of *Walke*)

Walke (F), *Benham*, *Preston*, *Gwin*

Battleship Force

Rear Admiral Willis A. Lee, Jr.

Washington (F) (Captain Glen Davis) and *South Dakota* (Captain Thomas Gatch)



Rear Admiral Willis A. Lee, Jr.

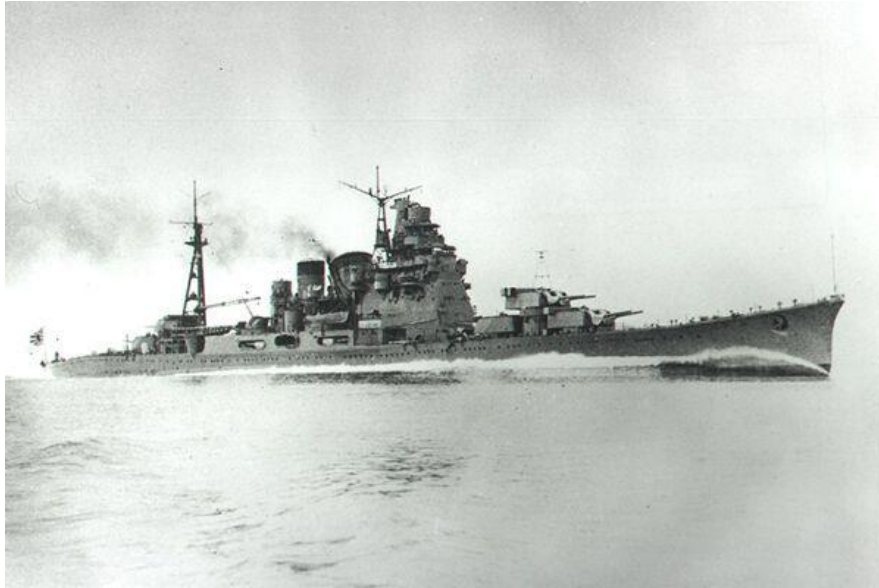
Photo # 19-N-33803 USS Washington off New York City, August 1942



U.S. Naval Historical Center photograph

U.S.S. *Washington*, flagship for Admiral Lee

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US Naval Historical Center photograph
The Japanese heavy cruiser *Atago*, flagship for Admiral Kondo.

Time Line of the Battle¹¹

1027 November 14, 1942

Kirishima had launched her float plane with Lt. (jg.) Murajima to do a reconnaissance mission of the waters off Guadalcanal. Japanese intelligence on U.S. forces thought they consisted of three enemy task forces operating in the area. One consisted of a carrier, 2 battleships, a cruiser and 4 destroyers. A second consisted of 4 cruisers and 4 destroyers and a third which was headed towards Guadalcanal consisted of 2 cruisers and 8 destroyers.

1835 November 14, 1942

Vice Admiral Kondo's primary mission was to bombard Henderson field and destroy American airpower so that Admiral Tanaka could bring reinforcements. Vice Admiral Kondo issued the following battle instructions for Emergency Bombardment Force: *"Tonight we face a high probability to encounter a number of enemy cruisers and destroyers in the vicinity of Savo Island; In that case the bombardment [of the airfield] will be temporarily suspended until the enemy surface force has been destroyed. The primary objective [i.e. the bombardment] will be realized thereafter."* Considering the results of the previous battle, Kondo decided to detach two combined cruiser and destroyer units led by the cruisers *Sendai* and *Nagara* and placed them some ten kilometers ahead of the Bombardment Unit. In case significant enemy forces were detected, the heavy cruisers *Atago* and *Takao* were to engage them with gunfire and torpedoes, giving *Kirishima* enough time to change her Type 3 incendiary shells (used for

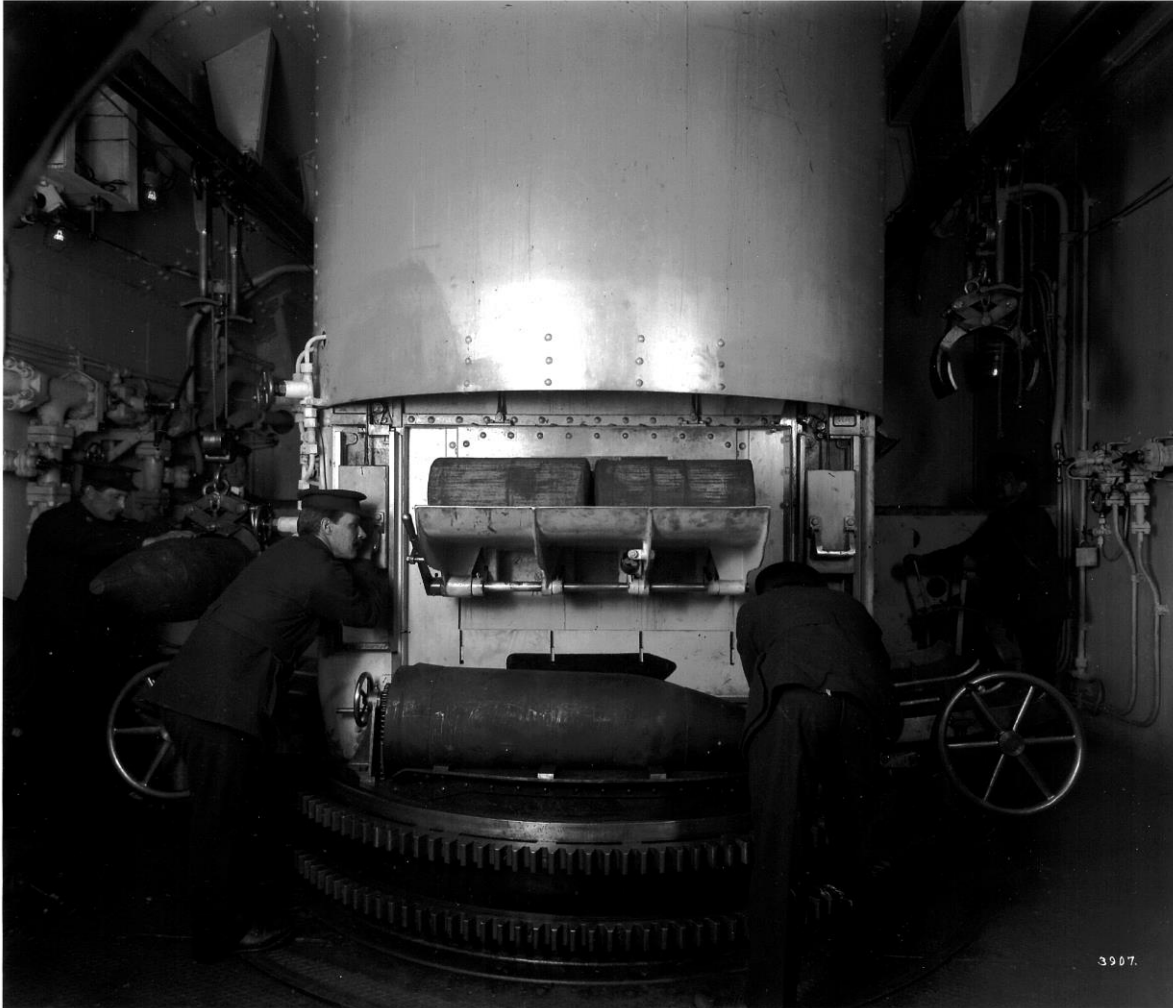
¹¹ All times in this section are local time at Guadalcanal November 14-15, 1942.

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bombardment missions) over to Type 1 armor piercing shells. Vice Admiral Kondo was leading his force in *Atago*, followed by *Takao* and *Kirishima*. The Bombardment Unit was escorted by Rear Admiral Tamotsu Takama's direct escort group with his flag in *Asagumo* followed by *Teruzuki*. Takama ordered *Shirayuki* and *Hatsuyuki* to join Rear Admiral Susumu Kimura, who was onboard the light cruiser *Nagara* leading ComDesRon 10, in his sweep south. Admiral Kondo wanted his light forces to gain command of the sea before the Bombardment Unit arrived. Japanese doctrine dictated that the restricted waters off Guadalcanal were the realm of the destroyer and the torpedo. With these forces he would first gain command of the sea and then once U.S. opposition had been defeated the Bombardment Unit would proceed with the shelling of Henderson field.

After receiving the above instructions, Captain Iwabuchi of *Kirishima* had an emergency conference with his gunnery officer, Cdr. Kimitake Koshino, concerning the methods of speeding up the change of main caliber battery shells in case of need. *Kirishima's* guns were currently loaded with Type 3 incendiary shells with reduced charges – two bags of powder instead of the normal four – to minimize barrel wear for the planed bombardment. Once shells were loaded and the shell bands had engaged the rifling, the fastest way to unload was by firing the guns. The projectiles were brought to the hoists by a rail system. Shells had to be lined up in front of the hoists prior to firing, usually six to ten shells per gun, so that the maximum rate of fire could be maintained. By utilizing continuous fire, they estimated a change could be made to armor piercing shells within three to five minutes. What this tells us was that Captain Iwabuchi was relying on the light forces to gain command of the sea and that he did not want to get into a surface battle. *Kirishima* was primarily there to bombard the airfield and not to engage U.S. warships.

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Shell and powder hoists on *Kongō*

Photo courtesy of The Dock Museum, North Road, Barrow-In-Furness, Cumbria, U.K.

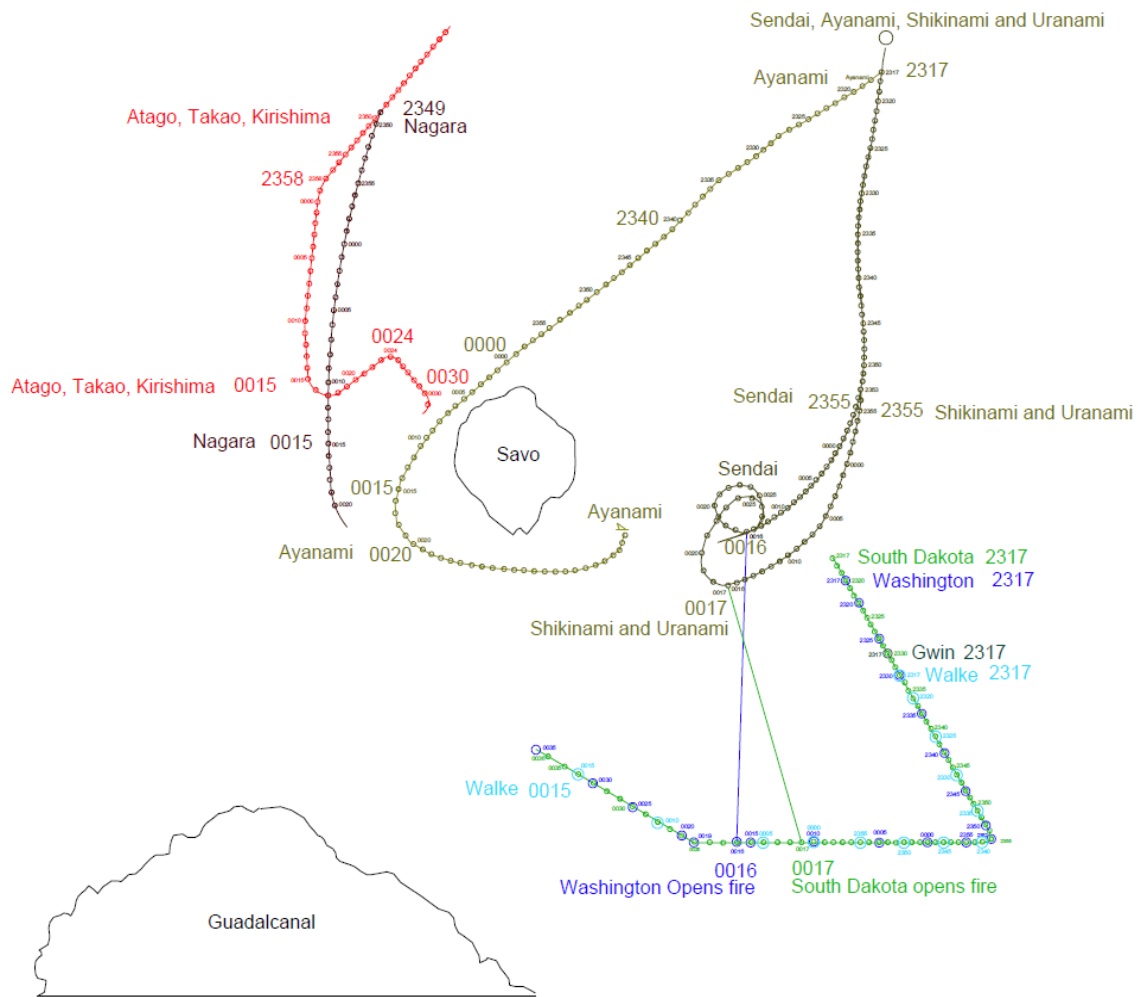
The above photo, taken of *Kirishima's* sister *Kongō* when she was being built in Great Britain and before delivery to Japan, shows how the powder and shells were loaded onto the hoists. Projectiles were transported by a rail system to the hoists which also shows how difficult it was for her crew to quickly change ammunition.

2230-2233 November 14, 1942

Admiral Kondo received a message from Murajima's float plane. The message read "*Two unidentified cruisers and four destroyers sighted 50 miles ahead of your force.*" Kondo ordered his force to go to general quarters and increased speed to 28 knots. Up to this point in the war the U.S. kept their battleships close to their carriers and normally the carrier task force would withdraw during the night. In post war interviews Kondo expressed **that** upon receiving this message from Murajima's float plane,

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this confirmed that the two known U.S. battleships had withdrawn with the carrier formation as they had always done in the past. At 2233, Kondo orders Rear Admiral Shintaro Hashimoto to assume a new cruising disposition, so that *Sendai* with *Ayanami*, *Shikinami* and *Uranami* were now detached ten kilometers ahead as an *ad hoc* Sweeping Unit.



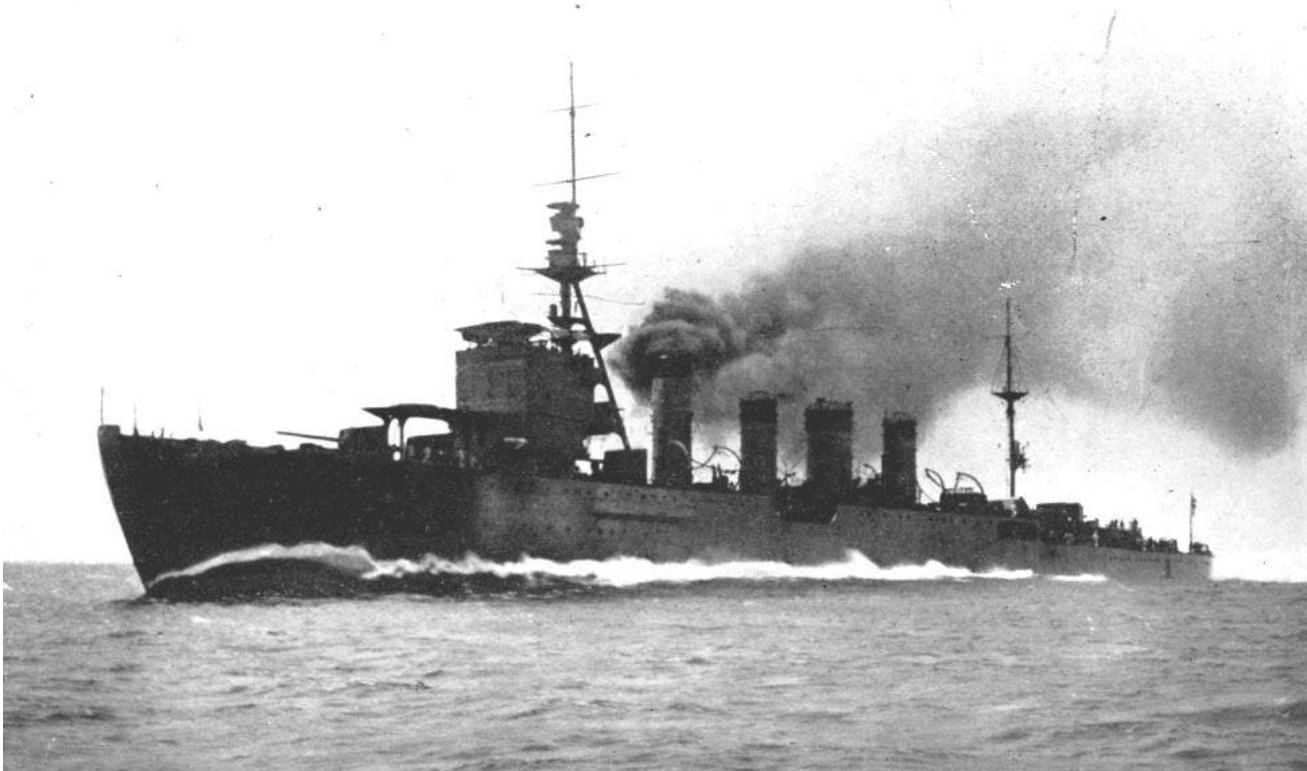
Opening Phase from 2317 to 0020
Figure 1

In the track charts *Atago*, *Takao*, and *Kirishima* are in red, *Nagara* is brown, *Sendai* and the *Ayanami* are in yellow, *South Dakota* is green, *Washington* is dark blue, *Walke* is light blue, other U.S. destroyers are represented by turquoise.

2300 November 14, 1942

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Shikinami, now 20 kilometers North by Northeast of Savo, reported the sighting of enemy ships bearing 200 degrees. On board *Atago* Kondo's staff was baffled at her report, which seemed to contradict the one received earlier from the floatplane. Lieutenant Hiroshi Ishiwata, Second Fleet torpedo officer, expressed his conclusion that the enemy force had evidently split up from one single force into two independently operating sections. Nevertheless, Kondo tended to believe the floatplane report and issued a new warning: "*Enemy forces are located 45 miles west of us.*" He correctly determined that *Shikinami* had sighted Admiral Tanaka's transport group.



The light cruiser *Sendai*, flagship for Admiral Hashimoto

U.S. Naval Historical Center photograph

2313-2317 November 14, 1942

On board the light cruiser *Sendai*, Rear Admiral Hashimoto reported spotting two ship silhouettes at 2313. Initially, Hashimoto considered splitting his force with *Sendai* and *Ayanami* to circle the west coast of Savo to recognize that side of the Island for any additional U.S. forces, but then at 2317 he

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decided to send *Ayanami* alone to circle around the west coast of Savo Island while *Sendai* and the destroyers *Shikinami* and *Uranami* shadowed the U.S. forces ahead.¹²

2328-2349 November 14, 1942

Hashimoto reported that the two ship silhouettes as enemy heavy cruisers and that he was maintaining contact at 2328. Then at 2332 he reported the sighting of four destroyers. At 2349 Kondo ordered Rear Admiral Susumu Kimura to sweep the west coast of Savo, with *Nagara* and the destroyers *Ikazuchi*, *Samidare*, *Shirayuki* and *Hatsuyuki* which then leave the bombardment group heading 180 degrees south. Kondo remained on the course of 240 degrees southwest. The reports that he has received from Hashimoto only confirmed his assumption that the U.S. force was made up of two heavy cruisers and four destroyers.

2352 November 14, 1942

Washington changed from a course of 150 degrees to 270 degrees west. Up until now *Sendai* and her two destroyers have been safe in the U.S. radar blind spot, which compromised a 60-degree arc astern of the U.S. formation. As Task Force 64 turned west this situation begins to change. Lt. Ray Hunter on *Washington* penned in the deck log, "*Proceeding in vicinity of Savo Island, hunting Japanese vessels.*"

2357 November 14, 1942

A rain squall reduced visibility and contact with the enemy vessels was lost by the Japanese which were dependent on optics. Rear Admiral Hashimoto reported that the main part of the Sweeping Unit has reached the area North of Savo Island.

0000-0014 November 15, 1942

Washington reported the first radar contacts at a range of 19,600 yards bearing 115 degrees true. The battleship's radar had found Hashimoto's ships. At 0005 *Uranami* regained contact with the U.S. ships and reported that she has sighted new type enemy cruisers. By this time *Ayanami* had turned west of Savo Island for an individual counterclockwise sweep, with the Bombardment Unit still plodding southwest. At 0008 Captain Gatch on *South Dakota* reported three ships bearing 330 degrees true,

¹² Many versions of this battle have *Uranami* with *Ayanami* circling west of Savo. This is incorrect based on both Japanese action reports and *Washington*'s and *South Dakota*'s action reports which state that three enemy ships were in sight when they opened fire at 0016.

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range 18,300 yards by radar and visual observation. At 0014 on board *Washington*, Admiral Lee gave *South Dakota* permission to open fire via talk between ships (TBS radio).

0015 November 15, 1942

At 0015 Kondo ordered a change of course to east 055 degrees, with the intention of penetrating the Lunga anchorage from the north. At 0015 Commander Thomas Fraser in the U.S. destroyer *Walke* ordered a turn to 270 degrees true and reduced speed from 23 knots to 17 knots in order to search for the enemy. This turn to the west was not ordered by Admiral Lee nor does it appear that Commander Fraser announced this new heading to any of the other ships behind him. In his battle station in the upper level of the conning tower, Harvey Walsh kept his spotting, plotting, and turret officers apprised of events. "This is where it all pays off, all the damn drills, all the condition watches; this is where it all pays off," he thought to himself. Next to him stood his enlisted JC phone talker who was in communication with the bridge. Someone was on the line; "Gunnery officer" said the talker into his chest set. It was a short message; "Aye, aye," ended the talker. "Sir, the captain says load the main battery" as the talker released his mike button. Harvey Walsh responded, "OK, send it through, main battery load!" Down deep in the magazines hundreds of men now leapt into action using human muscle to lift 90 lb. powder bags¹³ to the trolleys, or trundle 2,700 lb. armor piercing rounds to their hoists. This was a time before automation and on these steel dragons everything needed to be moved by manual labor.

To maximize the fighting capability of these machines it was the human element that was the most critical. None of the men on the U.S. ships had ever been involved in a surface engagement prior to this night and could be considered green. On the Japanese side the crews did have more experience in combat but not by much and none had fought a U.S. battleship. On a warship there was no place to hide, you can't dig a foxhole, can't run, the only way to survive was to remain calm, disciplined, and focus on your job which was to maximize the fighting capabilities of these warships.

0016 November 15, 1942

In Spot 1 on board *Washington*, Lt. Cdr. Hank Seely trained the main battery director on the target and reported the hazy outline of a four stacked Japanese cruiser the *Sendai*. At 0016 *Washington* opened fire on the target at a range of 18,500 yards. Secondary battery opened fire on a closer target, assessed as possibly a destroyer, range 15,000 yards. *Washington* reported first main battery salvo as over. *Washington's* first salvo landed in the *Sendai's* wake astern. At 0016 Hashimoto reported to Kondo: "Starboard gunnery action, Enemy fired upon us, illuminated by enemy star shells, reversed course by right rudder to 000, laid down smoke". At 0016 the *Uranami* reported "The enemy was located ten miles from Savo, bearing 130 degrees true, now heading 270 degrees true." At 0016.30 *Washington* fired her second salvo and straddled the *Sendai*. Lt. Cdr. Hank Seely watched as this salvo erupted directly in the cruiser's path.

¹³ The 16-inch 45 caliber guns of *North Carolina* and *South Dakota* battleship classes used six 90 lb. powder bags. The *Iowa* class battleships used six 110 lb. powder bags for their 16-inch 50 caliber guns.

The Naval Battle of Guadalcanal

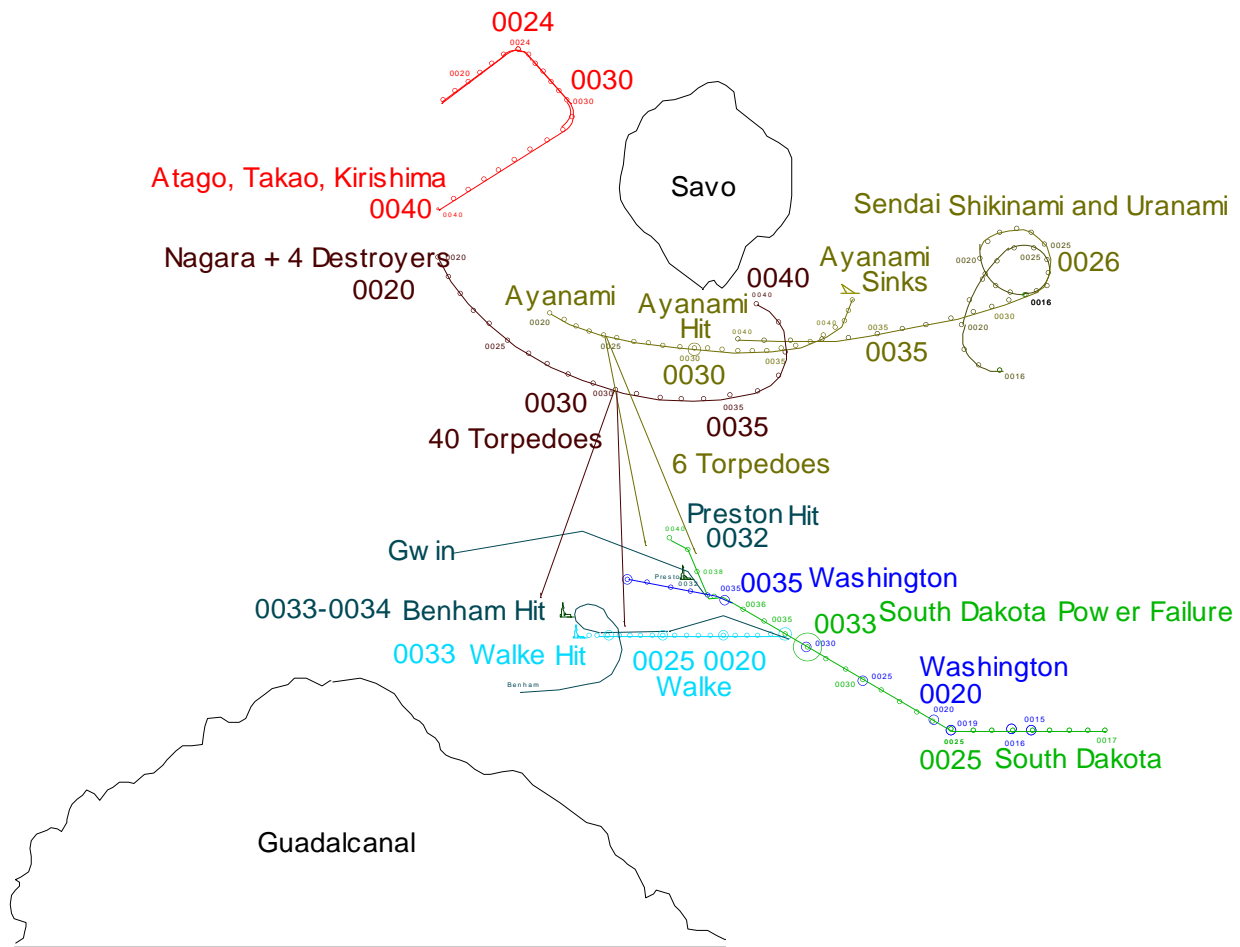
0017-0019.15 November 15, 1942

At 0017 *South Dakota* opened fire on target to the left and closer with her main battery on *Shikinami*, and the secondary battery opened fire on *Uranami*. Main battery target was obscured by smoke, so she maintained fire through radar control at 0018 *South Dakota* was firing on the left two ships which were almost in a line as they were reversing course. *South Dakota* reported that her first salvo straddled with fires started on *Shikinami*.¹⁴ Range was now down to 15,700 yards and after *Washington's* third salvo, her radar lost the target. At 0019 *Washington* changed course to 300 degrees true. At 0019.15 *South Dakota* fired her second main battery salvo, range 15,800 spot up 300 yards from her first salvo (Up spots will be abbreviated as U-300. Down spots will be abbreviated as D-300).¹⁵ Glen Davis said to Admiral Lee on *Washington*, "It looks like he's turned around and beat it." Hashimoto swung his ships into a circle and then headed west hugging the Coast of Savo Island and generally parallel with the ships of Task Group 64.

¹⁴ Standard Japanese doctrine in a surface battle in restricted waters was to use smoke screens liberally. Admiral Hashimoto, once he came under fire, ordered his forces to make smoke and come to course 000 degrees. The flashless powder used by the Japanese produced a red flame which through the smoke screen may have made it appear that the *Shikinami* was on fire. She was not damaged during the battle.

¹⁵ This is in reference to U.S.N. spotting and fire control practices. Spotting corrections were given in reference to how far the current salvo missed the target. D-200 means down 200 yards, which implies that the current salvo landed over its target by that distance and that the next salvo needs to land 200 yards shorter. Likewise, a U-200 correction would mean that the current salvo landed short of the target by 200 yards and that the next salvo needs to land 200 yards longer. NC means no change; the salvos are straddling or hitting the target. These corrections were inputted to the fire control computers ("Range Keepers") which then used these values as part of the calculations for the next firing solution. MC means Main Control or that the main battery is being controlled by the main battery directors, SC means Secondary director controlling the main guns.

The Naval Battle of Guadalcanal



Destroyer Action from 0020 to 0040

Figure 2

0020-0024.18 November 15, 1942

At 0020 *Ayanami* reported she has sighted the enemy ships southwest of Savo. At 0020 *South Dakota* fired her third main battery salvo at *Shikinami*, range 16,100 yards spot U-400 and reported hearing many Japanese voice transmissions. At this point Captain Gatch ordered an increase in speed to 23 knots. At 0020.42 *South Dakota* fired her fourth main battery salvo at range of 16,500 yards at *Shikinami* at a range of 16,500 yards, spot D-100. Between 0021.40 and 0024.18 *South Dakota* fired salvos five through eight between 17,000 and 18,000 yards, all at Admiral Hashimoto's forces with no result although Captain Gatch believed his targets disappearing off radar was evidence that they have been sunk. At 0022 *Washington* saw a green light bearing 115 degrees relative or 55 degrees true (unknown).

The Naval Battle of Guadalcanal

0024-0025 November 15, 1942

Cdr. Eiji Sakuma of the destroyer *Ayanami* began his torpedo run at 0024, taking on the entire U.S. formation alone. *Ayanami* hugged the southern shore of Savo Island to keep her concealed for as long as possible. Japanese naval doctrine was for destroyers in the advance stage of battle should close to as short a range as possible and destroyers should not open fire with guns until after torpedoes have been launched so that their position was not given away prior to the torpedo attack. If possible, screening units were to be ignored and bypassed unseen so that the main body can be attacked.¹⁶ At 0024 *Atago* received a report from Cdr. Eiji Sakuma of *Ayanami* that she was beginning her attack. Admiral Kondo at the same time issued an order to change course to 125 degrees South East and slowed to 18 knots realizing that the U.S. forces were heading west.



Japanese destroyer *Ayanami*
U.S. Naval Historical Center photograph

Then at 0024 *Washington* observed *Ayanami*'s attack, but believed the gunfire was from shore batteries on Savo Island itself. At 0025 *Washington*'s secondary battery opened fire on shore batteries. A fire was started on one at the right tangent of Savo Island which burned for a long time. *Washington*'s main battery ceased tracking (*Sendai* group) and shifted to the end of Savo Island. The bridge reported a target broad on the starboard bow (*Ayanami*). *Washington*'s main battery directors were so blinded by 5-inch fire that they could not find a point of aim. By 0025 *South Dakota* followed *Washington* in turning to a new course of 300 degrees true. Lt. Cdr. Hank Seely saw, "*The entire east coast of Savo erupt with white blobs of light which were all too evidently the accompaniment of heavy gunfire, as if controlled by a master switch and with no warning.*"¹⁷ It was difficult to separate the radar returns between ships and

¹⁶ Ballard, Robert D. and Rick Archbold. *Lost Ships of Guadalcanal*. Warner/Madison Press Books, 1993.

¹⁷ Ivan Musicant, *Battleship at War*, page 119.

The Naval Battle of Guadalcanal

the land mass, and under the impression that the Japanese had emplaced shore batteries on Savo, *Washington's* secondary guns engaged the shoreline.

Photo # NH 97912 USS *Walke* in about 1940



U.S. Naval Historical Center photograph
0025-0026 November 15, 1942

At 0025-26 *Walke* sighted *Ayanami* and opened fire on what Cdr. Fraser believed was a cruiser with a single raked stack. *Walke* fired for two minutes at a range of 11,000 yards and believed that her target blew up under heavy concentrated fire.

The second U.S. destroyer in line was *Benham*. As *Benham* searched for targets, Lt. Cdr. John Taylor noticed that his ship had worked 300 yards to the right of *Walke*. He ordered a 30 degree turn to port so that his ship did not enter *Walke's* line of fire. *Benham* opened fire on *Ayanami* using radar ranges and gun flashes as points of aim as the Japanese destroyer passed the U.S. line in the opposite direction. The targets silhouette merged with Savo but was seen burning as the rear destroyers took her under fire. Taylor watched the action behind his ship and saw one of the trailing destroyers hit *Ayanami*.

The Naval Battle of Guadalcanal



U.S.S. *Benham*

U.S. Naval Historical Center photograph

Preston was the third U.S. destroyer in the line and did not have any fire control radar and her search radar had been turned off before the battle. She kept track of the formations visually. She reported at 0025 that *Walke* opened fire. At 0026 *Gwin*, which was the fourth U.S. destroyer in line, fired two salvos of star shells in compliance with Lee's orders but then Lt. Cdr. John Fellows orders gunners to switch to AA common projectiles.¹⁸

0027-0028 November 15, 1942

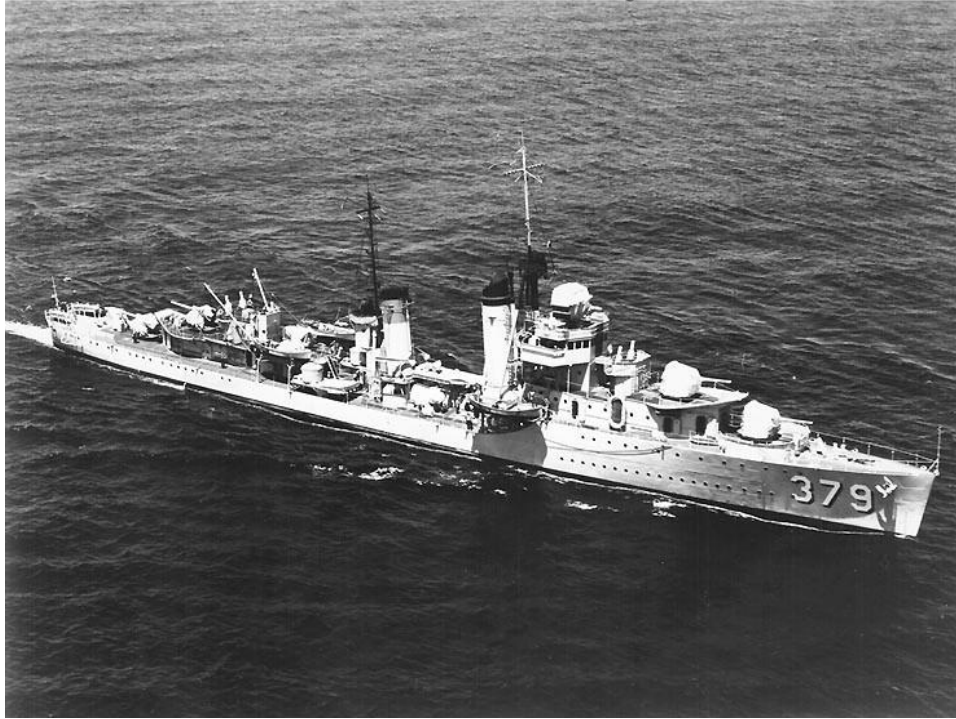
At 0027 *Preston* had sighted a ship off the southern tip of Savo Island (this would be *Ayanami*). She opened fire immediately with all four guns bearing on the enemy which she estimated as a heavy destroyer or light cruiser. Star shells were not used because target was visible due to moonlight. The range was estimated at 9,000 yards and salvos were spotted to the target. The hitting range was established after a few salvos and fire was very effective. The battery was in automatic control using director fire. The enemy ship moved into the shadow of Savo Island, but she could still be distinguished

¹⁸ *Gwin*, Report of Night Action 14-15 November 1942.

The Naval Battle of Guadalcanal

and fire on her continued. Approximately one minute after *Preston* opened fire the enemy returned fire with her main battery plus what appeared to be 40 mm guns. At 0027 *Washington* reported radar (CXAM) picked up target bearing 040 relative 340 degrees true range 9,700 yards (*Nagara's* group).

Photo # NH 97937 USS Preston at sea, during the 1930s



U.S. Naval Historical Center photograph

Preston observes 0028-30 that *Ayanami* has caught fire and begun to burn fiercely. At about same time she observed that the ship that one of the battleships had been firing on had caught fire also. (Possibly fire on Savo Island itself started by *Washington*). Fire was shifted to another ship in the shadow of Savo Island at a range of 8,000 yards (*Nagara*).

At 0028 *Walke* increased speed to 26 knots and shifted to a new target (*Nagara*) bearing one point to starboard, range 7,500 yards and resumed rapid fire. Flames were reported on this target along with heavy black smoke before it disappeared behind the northwest point of Savo Island. At 0028 *Washington* reported target bearing 356 degrees true moving around the end of the Island. Other contacts follow indicating that there were several ships rimming the southern side of the island of Savo estimated 6-10 ships. At 0028 Captain Gatch ordered the main battery shifted to divided fire as all batteries could no longer bear on new targets bearing 315 degrees true, range 13,000 yards and closing which was *Ayanami*. At the same time her number three turret alone fires her ninth salvo at *Shikinami* at a range of 10,800 yards, spot D 200 and this was the last salvo fired at *Shikinami*.

The Naval Battle of Guadalcanal

0029-0030 November 15, 1942

Cdr. Sakuma with *Ayanami* engaged *Walke* with guns and targeted the middle of the U.S. formation with his torpedoes. At 0030 the *Ayanami* launched six Type 90 torpedoes at the third ship in the U.S. formation which Sakuma thought was a heavy cruiser but was actually the destroyer *Preston*. Soon after launching torpedoes, Sakuma gave the order to re-open fire with his main battery.



The light cruiser *Nagara*, flagship for Admiral Kimura
U.S. Naval Historical Center photograph

Rear Admiral Kimura sighted the U.S. formation at 0030 and radioed Admiral Kondo he was beginning his attack. His light cruiser and four destroyers launched 35-40 torpedoes and then engaged with their main batteries. At 0030 Admiral Kondo ordered a course change to 250 degrees south west and *Atago* increased speed to 30 knots and prepared for battle, with *Takao* and *Kirishima* following in line. Then at 0030 *Atago* received *Nagara's* report that she had sighted enemy ships bearing 25 degrees to starboard, distance 4,000 meters. Lookouts from *Nagara* reported one heavy cruiser and three destroyers and that Rear Admiral Kimura was attacking and opening fire with his entire force. Lt. Ichiro on *Atago* noted that the battle had begun as this report was received, and distant gun flashes could be observed. At 0030.40 *South Dakota* fired her tenth main battery salvo (all turrets) range 10,700 yards spot D-100 at *Ayanami*.

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U.S.S. *Gwin*
U.S. Naval Historical Center photograph

0031-0032 November 15, 1942

Gwin at 0031 began a steady fire of four-gun salvos at *Ayanami*. *Gwin* hits with at least two salvos and observed that *Ayanami* which had been firing three turrets was now only firing one.¹⁹ At 0031 *Walke* checked fire, then shifted to a target to port and flashes off Guadalcanal and resumed rapid fire at range 7,500 yards.²⁰ At 0031 *Preston* was hit on the starboard side by two projectiles, probably 5.5-inch from the *Nagara*. One projectile hit between the two fire rooms killing all men in them and covering the amidships area with firebrick and debris. Several fires were started including one in the TNT of the torpedo warheads which burst open by the force of the explosion. Number two stack fell on the search light knocking it over on the starboard torpedo tube. The other projectile hit the gun shelter just aft of number two gun but did not explode. The projectile killed one man, badly injured another and tore a very large hole in the deck. The projectile cut the power cable for number two gun and jammed it in train. At 0031 *Washington* reported three excellent optical ranges were obtained on a burning ship at 10,200 yards (*Ayanami*). *South Dakota* 0031.20 fired her eleventh salvo (all Turrets)

¹⁹ *Gwin*, Report of Night Action 14-15 November 1942.

²⁰ This range corresponds to *Washington* which is about 7,000 yards astern and to port. *South Dakota* entered into her logs at 0033 of many shells landing over with few short on *Washington*. She reported this fire as a hail of fire equal to what *South Dakota*'s secondary battery could put out. There are no Japanese ships to the port side of U.S. forces and no Japanese shore batteries took part in the battle. This gunfire does not correspond to any Japanese ships either. *Ayanami* is firing currently on *Gwin*, setting her on fire amidships. *Nagara* is firing on *Preston* hitting her as well. *Nagara*'s destroyers are firing on *Walke* and *Benham*.

The Naval Battle of Guadalcanal

range 10,700 yards spot MC at the *Ayanami*. *South Dakota* fired at 0031.58 her 12th main battery salvo at the *Ayanami*.

During this part of the action Cdr. Stormes of the *Preston* reported a heavy cruiser came in on the port side of the column virtually undetected. This “cruiser” opened fire on *Preston* at very close range. At 0032 *Preston* was hit on the port side by part of a salvo of she estimated to be eight-inch shells.²¹ As near as can be determined the ship was hit by three projectiles. The whole after part of the ship from the stacks aft was a mass of blazing, red-hot wreckage. One projectile hit the engine room exploding after it hit the generators. A second projectile hit between the secondary control section and number three gun. The third projectile hit number four gun. Almost every man aft of the after-machine gun nest was killed, including the executive officer. The gunnery officer gave the order for the guns one and two to continue firing if possible, but the force of the explosion had jammed them both in train and elevation and they could not fire. This gunfire damage may have also coincided with a torpedo hit to starboard simultaneously for the ship immediately listed sharply to starboard and began to settle by the stern.

At 0032 *Gwin* received her first hit with a 5-inch round striking the starboard side of the after-engine room four feet above the waterline. Superheated steam blew into the 20mm clipping room and the mount 4 handling room. The lights to mounts 3 and 4 went out but emergency lights came on so that neither gun’s ability to fire was impaired. The blast in the engine room broke all the sheer pins holding the torpedoes in the forward torpedo mount so that three slipped out and into the sea and the other two came halfway out. At 0033 Cdr. Stormes gave the order to abandon *Preston*. In less than 30 seconds the *Preston* rolled over on her starboard side and sank by the stern. The bow rose vertically and remained in that position for approximately 10 minutes. No records, papers, or accounts were saved.

0033-0034 November 15, 1942

Walke was attempting to shift torpedo battery from curved fire ahead setup to broadside fire to starboard when at 0033 a heavy explosion occurred in the vicinity of frame 45 to starboard. The ship was straddled twice by gunfire prior to this explosion which was caused by a torpedo whose wake was observed. Following the initial explosion, this ship was struck by an apparent cruiser salvo. Shell hits were reported in the radio room, foremast, below the gig davits, and in the vicinity of gun three. The torpedo explosion blew the forecastle and a section of the superstructure deck completely off as far aft

²¹ There were never any Japanese ships to *Preston*’s port side. Henry Stewart of *South Dakota* reported in a post war interview – ‘At the time of the power outage, Commander Uehlinger [exec of *South Dakota*] and I saw the *Washington* open fire to her starboard, the *Preston*, a destroyer was hit and burning, and to us it looked as if the *Washington*’s fire had caused the accident. I was told by Commander Uehlinger to “forget what we just saw.” *Washington*’s deck logs are blacked out at this critical time period. It appeared *Walke* had taken the *Washington* under fire at 0031 and Commander Taylor of the *Benham* also thought he saw a small cruiser to port aft firing at the rear destroyers. After this point Admiral Lee will not let *Washington* open fire unless he was sure the target was an enemy ship. *Preston*’s sudden capsizing to starboard in less than 30 seconds may indicate a torpedo hit from the *Ayanami* as it occurred at virtually the same time that gunfire hit her. The gunfire alone would not have caused the sudden capsizing and the ship sinking so fast at the locations given in her report. Certainly, Commander Sakuma believed one of his torpedoes has scored.

The Naval Battle of Guadalcanal

as the bridge. Fire broke out throughout the forward section and the forward 20 mm magazine exploded. The bulkhead of the forward fire room was buckled, as was the main deck amidships. All engines were ordered stop immediately and Cdr. Frasier gave word to abandon ship, which was sinking fast by the head. Only two life rafts were left in condition to be freed. Depth charges were checked and reported set on safe.

Lt. Cdr. John Taylor in *Benham* watched the action behind his ship and saw one of the trailing destroyers hit *Ayanami*. He also noted what he thought was a small cruiser off to port and aft firing at the rear destroyers as well. Then new ships appeared forward and to starboard, so the *Benham* checked fire and then shifted to these new targets. Black smoke soon appeared, and the enemy ships disappeared. Just as his ship reached a position behind *Walke* he realized the lead destroyer had continued to veer left onto a course of 270 degrees west. Then *Walke* suffered an explosion, lost speed and began to sink by the bow.

At 0033 two U.S. destroyers are observed being hit by the crew of *Washington*. Reports stream into the bridge of men in the water dead ahead; rafts are ordered to be put over as we went by; all enemy fire stopped. Lt. Cdr. Cox, the *Gwin's* executive officer, ordered hard right so that she passed the *Preston* on the *Preston's* starboard side. As she passed, she was rocked by exploding depth charges from the sinking destroyer. The *Gwin* maintained her fire at *Ayanami* but then was hit again near her starboard depth charge rack but the shell failed to explode. At 0033 Capt. Gatch ordered collective fire and then *South Dakota* suffered an electrical power failure. All power gyros and all electric fire control equipment out. Circuit breakers on No 14-switch board tripped out. Load shifted to No. 3 switchboard. Bus transfer panel for No. 56 and 58 for 5-inch mounts shifted to alternate source on No. 3 board, causing No. 6 generator to trip out. Feeder circuits also tripped. Regained power in plotting room then lost it again almost immediately.²²

Lt. Ichiro on the *Atago* noted, "*Suddenly a bright ball of fire appeared 10 kilometers off the port bow. There was a silhouette of a ship engulfed in flames and then the ship broke in two and both sections disappeared. The bridge was quiet, and several officers took a deep breath for it was not known if the stricken ship was Japanese or American.*"

In *Benham* at 0034 Lt. Cdr. Taylor ordered hard port rudder in order to avoid hitting the lead ship, but just as she passed *Walke*, *Benham* took a torpedo on the starboard side only a few yards from the tip of her bow. The long lance torpedo was probably from one of *Nagara's* destroyers and blew the bow off as far back to the forward bulkhead of mount one magazine. The ship rose out of the water four feet, heeled to port and then rolled 30 degrees to starboard. Her speed fell from 27 knots to 5 knots

²² The greatest effect of the power failure was the loss of power to radar plot. *South Dakota* will lose tactical awareness at a very critical time. The dark grey paint of the Japanese warships blends into the black background of the sea and Savo Island behind them. *South Dakota* can't see optically *Sendai* and *Nagara* approaching but she can see the burning *Ayanami* due to the fires and this burning ship diverts her attention.

The Naval Battle of Guadalcanal

and the shock of the explosion ripped through the ship, breaking her back above the forward boiler room. As *Nagara* and her destroyers passed her by, Taylor ordered hard right rudder and ordered the port engine room to standard speed which drove the ship into a circle. By the time she completed the circle the battle had passed her, so she slowly withdrew to the west and away from the battle. Luckily none of her crew had been killed and all would survive the battle.

Then at 0034 *Washington* reported cease fire for secondary battery as a result of mount 3 firing wild (Training Motor kicked out and the pointers were not matched). It was feared the mount might endanger our own destroyers. She felt explosions as of depth charges (*Preston*) possibly from a DD of ours that had been hit. Changed speed to 26 knots. All secondary targets lost. By 0034 *South Dakota* reported two enemy ships rounding Savo Island to the eastward, bearing 345° T. reported by radar plot. The enemy was firing on our formation. Enemy salvo's falling shorts few, over many, especially on *Washington*. When *Walke* was hit by a torpedo Cdr. Sakuma believed that his lone destroyer has sunk one heavy cruiser and one destroyer with torpedoes and set on fire a third destroyer with gunfire.

0035-0037 November 15, 1942

At 0035 *Washington's* SG radar reported four ships bearing 330 degrees true. This was the *Atago*, *Takao* and *Kirishima* plus one of the remaining two destroyers which were still escorting the main body. Radar plot coached the main gun battery on to the one reported to be larger than the others. These targets had been obscured by Savo Island up to this time. Main Battery started tracking. *Washington* set course of 282 degrees true. At 0035 *South Dakota* asked *Washington* if she was okay. Admiral Hashimoto on *Sendai* passed *Ayanami* at 0036 and radioed Admiral Kondo that she was on fire. *Nagara* makes smoke and checked fire at 0036. *Gwin* at approximately 0036 checked fire as she was no longer able to find a suitable target and could not find the *Benham*. *Washington* passed the wreckage of *Preston* at approximately 0036 staying on *Preston's* port side. At 0036 *South Dakota* started to turn left to clear damaged destroyers ahead but then turns sharply to starboard breaking formation and steadied on a course of 300 degrees true.²³ Then at 0037 an unknown number of depth charges exploded near

²³ Many critics have questioned this maneuver, but *South Dakota* was following pre-war training. This is really a reflection that prior to hostilities the Navy focused on open sea major combat during daylight hours and not the type of fighting that occurred in 1942 which was fighting in restricted waters at night. Standard pre-war training when in a line ahead formation and the ship ahead of you was disabled the next ship had the choice to turn either port or starboard but the next ship aft will turn opposite of the first and the next ship aft will turn in the same direction as the first and the next ship will turn in the same direction as the second and so on. This training in a long-range daylight battle would have little effect and avoid collisions which was its intent. Under long range combat the line could easily reform after the line passed the disabled ship. It was the mistakes and experience gained in the 1942-night battles that would lead to the PAC-10 directives developed in 1943. This would allow crews that had not worked together to act as a cohesive unit with little instructions. Criticism should not be directed at the crew of *South Dakota* for doing what she was trained to do, but for how unprepared the U.S. Navy was by not focusing on the type of terrain battles were likely to take place considering U.S. policy of advanced base seizure to support the battle-fleet.

The Naval Battle of Guadalcanal

Walke killing and seriously injuring many men in the water. The total killed or missing in action were six officers and 76 enlisted men from *Walke*.

0038-0039 November 15, 1942

At 0038 Admiral Hashimoto with *Sendai*, *Shikinami* and *Uranami* passed ahead of Rear Admiral Kimura in *Nagara* and his destroyer column in their attempt to lead U.S. forces to the Japanese main body and possibly gain position for a torpedo attack. At 0038 *South Dakota* reported passing one of our destroyers abeam to port (*Preston*). A lull in the firing enabled the crew to hear survivors shouting for help. Some men in the water were using flashlights. A small electric fire-reported in compartment C—303 and Repair 4 sent to investigate fire, also in mount 58. *South Dakota* changed course again to 285 degrees true.

The Naval Battle of Guadalcanal

small fire in C-303L extinguished. SG radar reported inoperative, gyros out. At 0041.10 the fifteenth salvo, range 15,200 was fired by *South Dakota*. No spot, D-500 applied. At 0041 *Walke* sinks and *Washington* passed her wreckage and launched two life rafts. At 0042.05 *South Dakota* reported turret three firing sixteenth salvo, range 15,500 yards, on target astern which was *Ayanami* and that she had set fire to own planes. No spot.²⁴



U.S.S. *South Dakota*
U.S. Naval Historical Center photograph

0043-0045 November 15, 1942

At 0043 *South Dakota* reported that her seventeenth salvo blew two planes overboard and extinguished most of the fires started by the previous salvo, Range 15,500, Spot NC. Suspected hit received; Soundings taken on all flood board. Repair parties 3 and 4 sent to scene of fire on stern. At

²⁴ The destruction of the float planes annoyed Admiral Nimitz who asked why they were not flown off prior to battle where they could land at Tulagi and re-join the battleships the next day. *Kirishima* had flown off her search plane and landed all boats prior to battle as they only represented a fire hazard in a surface battle. This again is a demonstration of the different training preparedness between the two navies.

The Naval Battle of Guadalcanal

0043.15 *South Dakota* fired her eighteenth salvo at a range of 15,800 yards. No spot. At 0043.40 *South Dakota* fired her nineteenth salvo at a range of 16,100 yards, Spot U-200. Then at 0044 *Washington* received a message from *Gwin* reporting she was okay with one hit in fire room, but this message was mistakenly recorded as coming from *Benham* in her logs.

At 0044 Kondo received *Ayanami's* report that one cruiser and one destroyer are sunk and another destroyer has been set on fire. Lt. Ichiro mentions there was much elation on the bridge but soon after this they receive *Sendai's* message that *Ayanami* was on fire and the bridge quiets down. Admiral Kondo after receiving *Ayanami's* message concludes that the U.S. surface forces are being crushed. At 0045 *South Dakota* reported main battery ceased firing. Target astern exploded and lost on radar screen. At 0045 *Gwin* received orders from Lee to withdraw. She headed west and then south away from the battle.

0046-0047 November 15, 1942

At 0046 *South Dakota* reported SG radar in commission again. *South Dakota* passed the wreckage of *Walke*. At 0046 *Washington* reported burning enemy ship bearing 150 degrees relative or 072 degrees true which was *Ayanami*. At 0047 *South Dakota* reported fires out in vicinity of planes. Main battery reported difficulty getting ranges and requested secondary battery directors to track, radars in secondary directors 1 and 4 out, 2 and 3 doubtful. Radar plot reported ships bearing 070 degrees right, range 5,800 yards which was the *Sendai* and her destroyers. This was one of two previous reports at 7,000 yards but overlooked on bridge while directing fire control on target bearing 112 degrees against *Ayanami*.²⁵

0048-0051 November 15, 1942

Then at 0048 *South Dakota* comes under fire for the first time. She reported, "Enemy searchlights turned on *South Dakota* by second ship of enemy column, range 5,000 yards, slightly forward of beam."²⁶ Four searchlights, closely grouped in pairs, each pair arranged vertically. Our secondary battery was delayed firing on illuminating ship until enemy opened fire about 30 seconds after illumination. Lights went out. She shifted to primary collective, director 3 controlling main battery. Third ship in enemy column illuminated us as soon as second ship failed. Main battery fired two or three salvos on illuminating ship after lights were extinguished, estimated range 9,800 yards (*Nagara*).

²⁵ The power comes back on and radar plot picks up immediately *Sendai* and *Nagara*, but it is too late for *South Dakota* to react as she will be taken under fire at 0048.

²⁶ The range indicates this was *Sendai* and she was the closest light cruiser to *South Dakota*.

The Naval Battle of Guadalcanal

Appeared to list, no data available, but believed sunk, no target on radar screens. Large clouds of black smoke issuing from leader, steam fire seen later.”²⁷

By 0049 *South Dakota* reported first hits sustained, most likely 1.1” clipping room in foremast structure.²⁸ Capt. Gatch ordered an increase in speed to 27 knots. Another projectile hit the Mk. 45 1.1-inch director on the third level above the house top at frame 79. It ripped through the director apparently without exploding.²⁹ Received message from *Washington* asking, “Are you alright?” Captain Gatch replied “Everything seems okay.”³⁰ By 0050 *South Dakota* reported more hits felt, unable to locate them.

Kondo was under impression that the battle was going well and ordered a temporary retreat to 290 degrees North West in order to wait until the enemy opposition was destroyed so that his bombardment force could proceed with the bombardment mission without interference from enemy warships. Then at 0050 *Washington* changed course to 290 degrees true. Rear Admiral Kimura onboard the *Nagara* recognized *South Dakota* as a battleship and he also sights *Washington* and notes her strange foremast, resembling the *North Carolina* class. He radioed Adm. Kondo, “Two enemy battleships off Cape Esperance, heading west along north coast of Guadalcanal!” At 0051 Kondo ordered the Bombardment Force to prepare to reverse course to ESE (bearing 130 degrees true) to commence the bombardment. At 0051 Lt(jg) Michio Kobayashi on the bridge of *Kirishima* was observing *Takao* when he spotted a stationary ship to port partially camouflaged by Guadalcanal. He immediately identified it as a U.S. battleship, and it did not appear that either heavy cruiser had spotted her yet.³¹ At 0051 *South Dakota* reported, main battery director 2 radar ranging, solution on target, range 6,500 yards. Main battery firing on 3rd ship in column, enemy course opposite to our own.³²

0052-0054 November 15, 1942

Approximately 0052 *South Dakota* veers to the south which presents her broadside to *Kirishima*. At 0052 Captain Iwabuchi immediately ordered *Kirishima* to engage the enemy battleship to port. At 0052 Lt. Cdr. Ikeda who oversaw the ship’s secondary battery received permission to open fire. The

²⁷ The Japanese used smoke screens liberally even at night, so the sudden appearance of smoke gave the crew of *South Dakota* the impression they were hitting their targets and setting the Japanese ships on fire.

²⁸ Many of the shells hitting high in the superstructure came from *Nagara* or *Sendai* and their destroyers. Shells passed straight across the ships structure indicating the firing ships were on her beam and not forward.

²⁹ Hit 8 in BuShips report on the *South Dakota* battle damage.

³⁰ Admiral Lee knows and see the *South Dakota* being hit or he would not ask the question “are you alright” however, the *Washington*’s main battery was currently tracking the *Kirishima* not the *Sendai* or the *Nagara* and the *South Dakota* was in the line of fire between the *Washington* and the Japanese light cruisers. Against the Japanese light cruisers, the *Washington* was not in a position she can help the *South Dakota*. In addition, he was not sure of the identity of the ships his main battery was tracking and has not yet identified them as warships.

³¹ *Kirishima*’s brief action report mistakenly identifies *South Dakota* as a *North Carolina* Class battleship.

³² The range of 6,500 yards still indicates her target was *Sendai* as the bombardment group is forward at a range of 11,000 yards.

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range was 10,000 meters (11,000 yards) and Ikeda's secondary battery was the first to open fire followed quickly by her main battery. The two aft turrets are the only main guns which can fire on *South Dakota*. Four shells fired by main battery. He claimed that two rounds from her first salvo hit the target ship's superstructure.³³ *Kirishima* fired a second salvo from her aft main battery guns with four shells fired. Short straddle no hits at 0052.30.

The *Atago's* course was 000 degrees when her lookouts sight an enemy vessel bearing 125 degrees distance 10,000 meters which was *South Dakota*. Kondo received word that *Nagara* and *Kirishima* have sighted an enemy ship (*South Dakota*).³⁴ Then at the same moment *Atago's* lookouts reported "*Kirishima* is firing." Next, they reported, "*Kirishima* has scored a hit to enemy bridge with her first salvo!" Admiral Kondo watched and observed *Kirishima's* first salvo strike the foremast of the enemy ship and the enemy ship's main battery goes silent.³⁵

By 0053 Admiral Kondo issued orders to Hashimoto that he plans to bombard the Marine positions and that he should assist the *Ayanami*. Hashimoto turned to the north, forcing Rear Admiral Rear Admiral Kimura and his destroyers into a 360 degree turn to starboard in order to avoid a collision. Hashimoto released *Uranami* to stand by and assist the *Ayanami* and these maneuvers effectively take both Hashimoto and Kimura out of the battle. *Kirishima* fired a third main battery salvo from her aft main battery guns with a total of four shells fired. Short straddle no hits observed. At 0053 *South Dakota* reported three enemy ships coming out of Savo Island, estimated range 11,000 yards which were *Atago*, *Takao* and *Kirishima*. We are taking hits chiefly in foremast structure.³⁶ At 0053 *Washington* reported several DD and 2 CL headed slowly North West off Savo Island. This was the *Sendai* and the *Nagara* reversing course. No further information on this enemy force. At 0053.30 *Kirishima* fired a fourth main battery salvo from aft main battery guns with four shells fired. Long straddle, no hits observed.

Atago settled in on a new heading of 130 degrees true. *Kirishima* fired her fifth main battery salvo from aft main battery guns with four shells fired. Long straddle, no hits observed. At 0054 Lt. Cdr. Ikeda was ordered to check fire so that *Kirishima* could make a turn. His secondary battery had already reached their maximum train so his guns could no longer bear on the target anyway. Twenty main

³³ Hits to Radar Plot.

³⁴ *Atago's* DAR only mentions that the *Nagara* had sighted a large enemy warship and does not reflect Rear Admiral Kimura's warning of two battleships heading west.

³⁵ The battle damage suffered by radar plot is consistent with two 6-inch common and one 14-inch type 3 incendiary shells. This damage was what the Japanese observed giving them the impression that *Kirishima's* first salvo had blown off the top of her foremast superstructure. The *South Dakota's* radar plot had only regained power at 0047 and now at 0052 it is put out of action permanently. The *South Dakota* must now visually spot her targets, but she was blinded by search lights and the white flash of her own 5-inch guns. For more information on the damage suffered by *South Dakota* during the Guadalcanal battle, please see [South Dakota Damage Analysis](#).

³⁶ This is the time *South Dakota* first spots the bombardment group and her range match Japanese ranges as well as *Washington's* ranges. So, her main battery salvos between 0048-0053 were directed at the light cruisers not the bombardment group.

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battery rounds expended from aft main battery turrets.³⁷ He noted in a post war interview that six minutes later after he checked fire *Kirishima* would come under fire from another U.S. battleship.³⁸ At 0054 Admiral Lee received a report from *South Dakota* that she was okay and observed *South Dakota* shearing to starboard. *Washington* reported at 0054 enemy ships that main battery was tracking started a change in course to the right.

0055-0057 November 15, 1942

Battle damage reports begin to flood into Captain Gatch on the bridge of *South Dakota*.³⁹ At 0055 he received a report that the forward Main Battery Director (Director One) is unable to train forward to 040 degrees, probably due to a shell hit. Another projectile hit frame 83-1/2 about 8 feet above the deck of air defense forward.⁴⁰ *Washington* reports that the enemy ships that the main battery was tracking completed their course reversal by 0057 (*Atago*, *Takao* and *Kirishima*).

On *Atago* at 0057, Lt. Ichiro noted that Admiral Kondo and his chief of staff, Rear Admiral Kazutaka Shiraishi, were standing to his right and Capt. Ijuin was to his left. One of the lookouts on the starboard side reported “A battleship off starboard”. Shiraishi inquired if the ship could be *Hiei* for her fate was still not known.⁴¹

0058-0059 November 15, 1942

At 0058 the moon sets and visibility quickly drop from nine miles down to three miles. At 0059 on *Washington* Lee’s lookouts report “Transports reported off the starboard bow, evidently the ships already being tracked”.⁴²

³⁷ I know that *Kirishima* fired from 0052-0054 from her aft turrets 5 salvos for twenty shells. Also based on her documentation she fired from 0101 to 0110. I simply use a 30 second reload cycle and the maximum number of guns available and that can bear on the target to see if she expends the 117 total rounds she claimed. There is no hard documentation of times she fired like the U.S. reports so I am applying her maximum output given the known times she could fire.

³⁸ The times of this turn from 0054 to 0057 as noted by the Japanese is matched exactly by *Washington*’s action report, which at the time was tracking *Kirishima*.

³⁹ For more information on the damage suffered by *South Dakota* during the Guadalcanal battle, please see [South Dakota Damage Analysis](#).

⁴⁰ Hit 12 in BuShips report on *South Dakota*’s battle damage. Likely a 5.5-inch common projectile from one of the light cruisers as the Japanese heavy cruisers had not yet opened fire.

⁴¹ It is possible the ship the lookouts spotted was *Washington*. When Admiral Kondo turned his force around, he thought that *South Dakota* was a cruiser which was now crippled. As he makes the turn this is being revealed as a mistake and that not only was *South Dakota* a battleship, but a second battleship was in the area. This discovery will stun Kondo because he now knows that he has made a huge miscalculation.

⁴² Currently Admiral Lee is still not sure of the ship types the main battery is tracking.

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0100 November 15, 1942

Then at 0100 Admiral Kondo and Captain Ijuin began giving orders at the same time. Captain Ijuin ordered "*Stand by for a gun and torpedo action to starboard!*" At 0100 *Washington's* main battery opened fire bearing 008 degrees true, range 8,400 yards on target, identified as a battleship. Main battery was on full radar control; however, her FC and SG radars could not distinguish shell splashes, which thus had to be observed optically. *Washington* fired nine guns with her first salvo at *Kirishima* with a straddle and no hits observed. *Takao* may have been first ship to open search lights at 0100. On *Kirishima's* bridge Lt.jg. Kobayashi Michio remembered that *Washington's* first salvo (9 shells) was a straddle that sent up huge columns of water that soaked the bridge and ruined the log he was keeping. At 0100 *South Dakota* reported secondary directors 1 and 3 tracking target. Director 1 controlling mount one-star shell spread. Two hits felt below decks.⁴³ Capt. Gatch orders an increase speed to 27 knots. Upon *Takao's* illumination at 0100, Captain Iwabuchi ordered *Kirishima* to resume fire on *South Dakota*. At 0100 Lt. Cdr. Kyūshichi Yoshino, *Kirishima's* flooding control officer, heard Captain Iwabuchi announce a gun battle to starboard and to increase speed to maximum.

0101 November 15, 1942

Washington was able to fire her second salvo before *Kirishima* fired her first within the same minute of 0101.⁴⁴ This was *Washington's* second nine-gun salvo fired at *Kirishima* and she scored one hit in the pagoda superstructure as observed by Lt. Cdr. Hank Seely. *Kirishima* reported that she received her first hit at this time and this was to the 03-level compass bridge level and forward telegraph room. *Kirishima* opens search lights onto *South Dakota* at 0101. *Kirishima* fired a full eight-gun broadside at *South Dakota* at 0101, (shots 21-28 fired). Lt. Cdr. Ikeda was positive that his ship was illuminating the enemy as well. He mistakenly reported later that they were facing a "*North Carolina* class battleship." Ikeda could see his gunfire hitting the enemy ship. Ikeda himself felt only a strange vibration and had no idea that his ship was hit. Anyway, soon he felt his back getting hot, so there must have been a fire in the next compartment. After *Kirishima* re-opened fire, Lt.(jg) Kobayashi thought he saw *Kirishima* hit the foremost main battery turret of *South Dakota* so that its barrels were canted upwards.⁴⁵ Hit one and three in BuShips report were likely 6-inch shells from *Kirishima*.⁴⁶ This is listed as Hit #1 in the BuShips report and is an estimated 6-inch projectile that nicked the top of the starboard

⁴³ Hit 2 and Hit 11 in BuShips report are estimated to be 8-inch shells, however this estimate is incorrect, and a better estimate would be 14-inch HC shells exploding. Only three shells detonated at high order, hits 2, 11, and 26.

⁴⁴ The slow reaction from the Japanese is documented in their records. *Atago* did not open fire until 0103, *Takao* at 0102 with *Kirishima* being the first to respond at 0101. For more information on the damage suffered by *South Dakota* during the Guadalcanal battle, please see [South Dakota Damage Analysis](#).

⁴⁵ Observation of Hit 2 in BuShips report. Crewman Daniel Brady of *South Dakota* through private Email also provided information that this shell produced many small fragments, which was typical for HE types shells.

⁴⁶ Neither Japanese cruiser had opened fire with gun yet so hits 1, 2, and 3 had to have come from *Kirishima*.

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20 mm gun shield near Frame 17 without detonating. Hit 2 was by a 14-inch HC shell hit just forward of turret one.

Hit 3 strikes a glancing blow to the starboard side of Turret I, probably by a 6-inch shell, which exploded on the starboard sight port. The hinge on the sight port was bent and the closing device on the port was rendered inoperative.

On *Atago*, “*Ready to illuminate*” someone shouted and Captain Ijuin at 0101 ordered “*Commence illumination*”. What Lt. Ichiro saw was a battleship that he thought was similar in appearance to the Japanese super-battleship *Yamato*. She had a high freeboard and a layered bridge. *Atago* report identified her as a *North Carolina* class battleship. The *Atago* began to turn to port.

Washington’s secondary battery opened fire on two different targets. Director 1 with mounts 51 and 53 fired upon the main battery target. Twice during the firing these guns were observed hitting the target and starting fires in *Kirishima*’s upper works. Director 3 with mounts 55 and 57 were firing on another ship identified as a probable heavy cruiser (*Atago*) that had her search lights trained upon *South Dakota*. Group 2 fired with a 200-yard rocking ladder. First salvo landed short and was spotted up 400 yards. At about the fourth salvo the enemy searchlights went out, however, the secondary battery continued to fire for about 8-10 more salvos. Director 4 provided star shell illumination with mount 59 for main battery beginning after second salvo with a total of 62-star shells being fired. fired.⁴⁷

Then Lt.jg. Kobayashi Michio received reports that the hemp rope “mantelettas” that protected the area around the first funnel and search lights had caught on fire. Captain Iwabuchi immediately ordered the crew to douse the fires and firefighting teams succeeded in cutting the ropes and dumping them overboard in no time.

0101.30 November 15, 1942

Washington fired her third nine-gun salvo (shots 19 - 27 fired) at *Kirishima* and observed hits amidships. Lt. Cdr. Hank Seely observed third salvo landed directly square amidships causing large bright explosions. I believe hits 2 and 3 hit near casement gun 9⁴⁸ and hits 4 and 5 are scored near casement guns 5 and 3.⁴⁹ Lt.(jg) Kobayashi heard a report through voice pipes about a fire in the aft

⁴⁷ In the 2009 article I gave credit to *South Dakota* for hitting *Atago* which may have been an error. During this review of the battle, I believe that is an error on my part. *South Dakota* never took the lead ship of the bombardment group under fire. *South Dakota* in her report miss-identifies the lead ship as *Kirishima* which was the third ship in column. *Washington* did split her secondary battery to fire on both the lead ship, which was *Atago*, and the third ship, which was *Kirishima*. The hits to the bow and main belt of *Atago* I now believe were likely scored by *Washington* and not by *South Dakota*.

⁴⁸ The 2019 survey of the wreck of *Kirishima* shows two hits now filled in with mud and sediment but still visible. The plate penetrated by these hits is 6-inches thick VC armor. The projectiles would have entered her main deck level just below the upper deck which housed the casement guns. These projectiles would have detonated close to amidships and threaten her aft secondary magazines. In my 2009 article they are placed slightly too high in the upper 6-inch belt and they are located below the upper deck but above the main belt.

⁴⁹ The 2019 survey of the wreck of the *Kirishima* shows a huge area between casement gun 5 and 7 that her torpedo defense system and outer shell has been blown open. There is no apparent hole in her exposed main belt and the lower 3-inch belt has

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secondary battery casemates. The XO, Cdr. Koro Ono, ordered the aft magazines flooded and soon came a report via voice pipe confirming that this measure had been successfully executed. Lt.(jg) Kobayashi had felt several successive impacts, whether from shells or torpedoes he did not know. They were not that heavy in his opinion and could have been *Kirishima's* own guns firing.

At 0101.30 Admiral Kondo stated that he was stunned at this time by the realization that he was engaged with U.S. battleships. *Atago's* lookouts reported, "There is another ship forward of the first, a big battleship!" They identify the second battleship as an *Idaho* class and that she was awash up to her main deck and sinking by the bow.⁵⁰ Medical Officer Lt. (jg) Abe, who was standing on the bridge, heard how one of the lookouts shouted; "*Kirishima is totally obscured by shell splashes!*" When Admiral Kondo and the other officers on the bridge turned their binoculars towards the battleship, Lt. (jg) Abe saw nine 30-meter high splashes rising around *Kirishima*. *Kirishima* fired another eight-gun salvo (36 shells fired).

0102 November 15, 1942

Washington fired a six-gun salvo at *Kirishima* (33 shells fired). Hits forward into the bow are possibly scored at this time. Hit 6 into the forward chain locker below the waterline and hit 7 in the forward bow.⁵¹ *Washington* reported spotting a green light on the port beam [the source of this light is unknown]. Director 3 guns continued to fire at the ship that had her search lights on *South Dakota* until the lights went out, and then shifted to others in turn until their lights also went out.⁵² Fires were started on the ship that *South Dakota* was hitting.⁵³

By 0102 *South Dakota* reported, searchlight illumination from abaft beam, (*Nagara*), Sky control out. S.B. director 1 hit and out of commission Engines ordered to full speed. Radio antennae shot away, shifted to others.⁵⁴ At 0102 on *Atago* Lt. Yoshiro Watanabe next ordered to stand by for torpedo action

been pushed inboard, but I believe this is due to implosion. I believe a 16-inch projectile struck the water which started fuse action, it entered the TDS, detonated prior to impacting the main belt, blowing the outer shell away. Lt.(jg) Kobayashi suspected she may have also been hit by torpedoes. With our knowledge in hindsight we know no torpedoes were fired at *Kirishima*, but this damage might give the crew such an idea considering only a small area would be visible above the waterline. The last hit near casement gun 3 could not be confirmed as the area is close to the starboard hull break and most likely any hit is buried in the mud.

⁵⁰ *Washington* is sporting measure 12 camouflages making her appear awash and down by the bow, she is painted dark blue hull and a sky grey superstructure with just the tip of her bow sky grey.

⁵¹ The 2019 survey of the wreck could not confirm these hits. Based on sonar of the debris field it is possible a bow section from frame 40 to frame 1 may have been spotted but the ROV was not sent to confirm this so its exact identity is not known. These hits are based on Lt. Ikeda's account. It is simply my best guess that these hits may have been scored around this time, but I have no hard data to support it.

⁵² *Kirishima's* battle damage supports *Washington's* claim that her secondary battery did indeed hit the superstructure as well as her search light area. *Atago* and *Takao* turned off their search lights and reported no damage to their searchlights.

⁵³ This is the observation from *Washington* that gave me the idea that *South Dakota* hit *Atago*. I now believe that this observation is confirming hits from *Washington* which, based on her documentation, is known to have targeted *Atago*. Two confirmed hits on *Atago* by *Washington* are later reported, one which started the fire on her bow.

⁵⁴ The hit to S.B. Director one may have come from *Takao* as *Atago* has not yet opened fire.

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starboard and engage enemy battleship steaming on parallel course. “No, she is not making any headway he corrected himself next.” “Stand by to open fire with guns. Enemy ship bearing 100 degrees opens fire on us” (*South Dakota*). Watanabe had to make one more correction when he suddenly realized “No, wait the target is closing on the opposite course!” At 0102 *Kirishima* fired another eight-gun broadside bringing her total to 44 shells fired at this time.



USS *Washington* firing a six-gun salvo during the battle
U.S. Naval Historical Center Photograph⁵⁵

0102.30 November 15, 1942

Washington fired another six-gun salvo for a total of 39 shells fired at *Kirishima* at this time. I believe hits 8 and 9 both went into *Kirishima*'s Turret 'A' barbette at this time. Lt. Cdr. Kyūshichi Yoshino's heart was pounding, and he was having trouble hearing all orders that came in through voice tubes. Then Captain Iwabuchi ordered: “Flood No. 1 turret magazines immediately!” He could hear from his voice how critical the situation was. He forgot to breathe as he raced to flood the compartment, knowing an explosion could wipe out the entire ship in a second. He was able to flood the compartment in time. *Takao* opened fire for her first broadside on *South Dakota*.

⁵⁵ This photo has been claimed as being taken during the night of the surface battle and shows a 6-gun broadside. I believe *Washington* fired two 6-gun broadsides during the battle with the first at 0102 and the second at 0102.30. If this photo was taken during the battle as claimed then it would have been taken at one of these times.

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At 0102.30 *Washington* reported "Cease Firing", given by control on receipt of erroneous report that the target was sunk.⁵⁶ *Kirishima* fires another six-gun salvo (50 shells fired). *South Dakota* is struck by an estimated 14-inch Type 0 projectile detonated upon contact with "N" strake of the shell just aft of frame 83 between the second and third deck levels. A hole about 3 by 2 feet was blown in the shell and torpedo bulkhead No. 2 was holed in numerous places by fragments.⁵⁷

0103-0103.30 November 15, 1942

At 0103 the order to launch torpedoes came and *Atago* launched eight Type 93 torpedoes and opened fire with her main battery.⁵⁸ Lt. Ichiro sees the first, second and third torpedo enter the water followed suddenly by an explosion. He realized that one of the torpedoes has exploded prematurely. At 0103 *Washington* reported that enemy was still firing, apparently with three turrets. Believed to have fired two salvos in the minute and a half during which fire was ceased.⁵⁹ *Washington* ordered *South Dakota* to close *Washington* from CTF 64 (Lee) over TBS. This order was acknowledged by *South Dakota*. *Kirishima* fired a six-gun salvo (56 shells) at 0103. The wind and spray shield at frame 74 starboard on the flag bridge level was hit by an estimated 8-inch projectile that detonated on contact.⁶⁰ The damage is consistent with an 8-inch Type 0 projectile and the *Atago* was the only ship to fire this type of projectile in the battle.⁶¹ At 0103.30 *Kirishima* fired another six-gun salvo bringing her total to (62 shells) fired at *South Dakota*. *Atago* fired her second salvo at this time.

0104-0104.30 November 15, 1942

At 0104 Captain Ijuin of *Atago* ordered "Cease illumination!" as she fired a third salvo at *South Dakota*, which was now bearing 105 degrees. At 0104 *South Dakota* reported more hits felt. Secondary battery was still firing. No communication with sky control. Shell hit glancing off mount 55, through signal storeroom, across the superstructure and into the after end of mount 54. Shell did not explode,

⁵⁶ In 1942, US radars often lost track when the target ship made radical turns or was lost in shore returns. This was mistakenly thought to mean that the target had sunk. *Washington* has fired a total of 39 x 16" AP projectiles by this time, claiming hits on at least three salvos.

⁵⁷ Hit 11 in BuShips report of damage on *South Dakota*. Originally estimated to be from an 8-inch caliber projectile the damage inflicted was more appropriate with a 14-inch Type 0 projectile.

⁵⁸ The *South Dakota*'s hull was painted with dark blue waves and a dark grey hull with sky grey superstructure. The dark paint on her hull makes it impossible to determine where her waterline is so determining her direction becomes extremely difficult (This paint scheme I believe is measure 12 mod 1.)

⁵⁹ *Kirishima* Turret 'A' was most likely the first turret knocked out based on the Chief flooding officer's account of battle and what was witnessed by *Washington*.

⁶⁰ This damage was inflicted by an 8-inch Type 0 HC projectile and *Atago* was the only ship to fire this type of projectile. Only six in total were fired during the battle, most likely on *Atago*'s first salvo.

⁶¹ *South Dakota*, Action Report, night engagement 14-15 November 1942, with Japanese naval units, off Savo Island.

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later found on deck, damage control parties found an 8" shell which was disposed of by throwing overboard. *Kirishima* fired another six-gun salvo for (68 shells) fired at *South Dakota*.⁶²

At 0104 Lee reported from bridge, "If you can see anything to shoot at, go ahead". *Washington's* main battery fire with a 9-gun broadside (48 shells) fired. Lt. Cdr. Hank Seely observed fire as over with no hits observed. Lee shouts out a warning to keep good look out for enemy DD's on both bows. *Washington* reported green light on port bow (unknown). At 0104.30 *Kirishima* fired another six-gun salvo for a total of (74 shells) fired at *South Dakota*.

0105-0105.30 November 15, 1942

At 0105 *Atago* fired her 4th and 5th salvo with the 127mm⁶³ and 25 mm guns joining in and fires are seen on *South Dakota*. By 0105 *South Dakota* reported more hits felt, power to sky 1 secured. Main radio directed to shift control to 6390 KCS (KHz.) to bridge. Calls to *Washington* are useless, as *South Dakota's* radio antennae are shot down. *Washington* fired a nine-gun broadside (57 shells) fired. Lt. Cdr. Hank Seely observed "hits, no change." These hits were observed to have struck near *Kirishima's* stern with at least two hits observed. I believe that hits 10, 11, 12 are scored aft of the rudders and into the admiral's cabin.⁶⁴ Hit 13 also scored into aft hydraulic pump room below the waterline penetrates the keel of the ship and detonates near the starboard propeller blades damaging both starboard props. This damage may force the shutdown of both starboard engines as the propellers are now badly mangled and no longer stable. Hit 14 was from a 5-inch or 6-inch shell not a 16-inch just aft of turret 4 on the hull. It is also possible hit 14 was the one hit scored November 12 which simply states she took a 6-inch shell aft. Its location was not known.⁶⁵ *Kirishima* began to turn north with her stern pointing at *Washington*. *Kirishima* fired four guns (total of 78 shells fired in total at *South Dakota*). Aft turrets are only ones which can train on target, but I believe based on *Washington's* observations that the aft turrets are now firing independently and not in unison. *Washington* reported only one turret firing but to reach 117 rounds expended both turrets three and four still had to fire, just not at the same time, giving the impression only one turret remained operational.

At 0105 an estimated 14-inch Type 3 incendiary projectile hit the radar antenna of 5-inch director No. 3 on *South Dakota*. Fragments sprayed the starboard side of the stack hood in the vicinity of frame 89. The projectile pierced the stack hood and continued through the radar antenna of 5-inch director

⁶² Hit 16, 17, and 18 in BuShips report of damage on *South Dakota*.

⁶³ Hit 22 was likely from a 5-inch projectile quite possibly from the *Atago*.

⁶⁴ For more information on the damage received by *Kirishima*, please see [Kirishima Wreck Analysis](#).

⁶⁵ This is just forward of the anchor chain that I believed in 1992 film I could see a possible hit behind the chain. The dark circle behind the chain turned out to be a shadow from the propeller itself. There was not a hit at this location. However, just to the left of the chain there was a shell impact. It appears to have been made by either a 5-inch AA common or this could be the hit she received on November 12 from the *Helena*. It is not a 16-inch shell hit and it is not part of the 17 x 5-inch projectiles listed by Lt. Ikeda for the night of November 15. I believe this is the hit she received on November 12 though I can't be 100 percent certain. It is either the hit from the *Helena* or an undocumented 5-inch shell hit from the *Washington*.

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No. 2. From list of fires, Stack covers, base of stack. Repair 1 and 4 CO2 by repair party 1 would not put out this canvas but extinguish enough to double ignited portion of canvas underneath until Repair 4 arrived with hose. Paint on stack did not ignite. Mount 3. Several reports were received at different times that mount 3 was on fire. No fire was discovered near this mount though at each report some small burning fragments would be found on deck. There were numerous small fires on both the first and second superstructure decks on both sides mainly burning pieces of life jackets which re-occurred several times. Water would quickly extinguish but some small piece would flare up again.⁶⁶ At 0105.30 *Kirishima* fired another four-gun salvo with 82 shells fired at *South Dakota*.

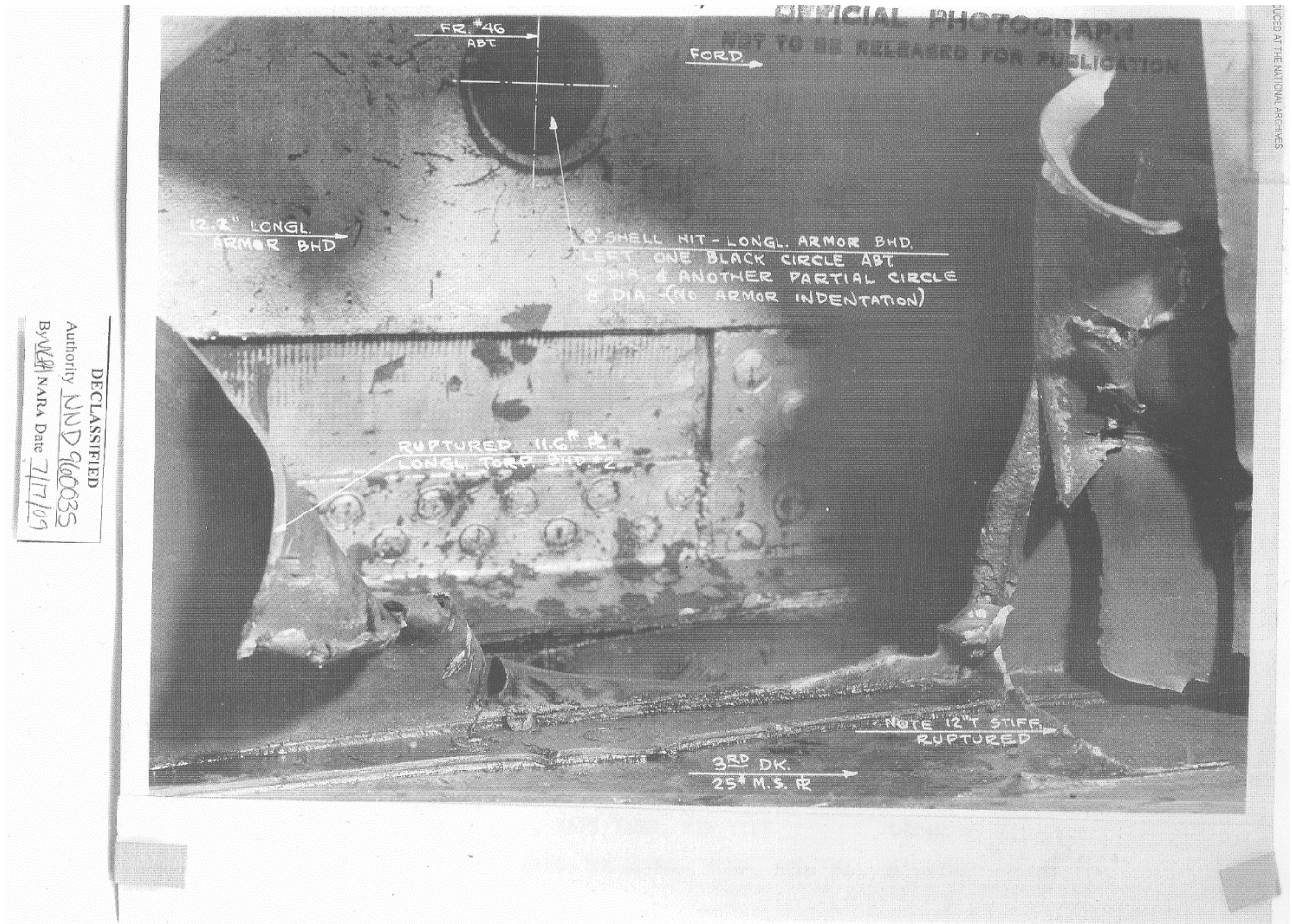
0106-0106.30 November 15, 1942

By 0106 the *Atago* fires her 6th and final salvo after which Capt. Ijuin orders "Cease fire." A lookout shouts "Torpedo tracks to port bearing 030 degrees!" Capt. Ijuin orders maximum speed and the torpedoes turn out to be a false alarm. An estimated 8-inch AP projectile hit the hull at the second deck, frame 109-1/2 on *South Dakota*.

Another 8-inch AP projectile struck between frames 46 and 47 about one foot above the third deck. It penetrated longitudinal torpedo bulkhead No. 2 and detonated on the 12.2-inch longitudinal armor bulkhead about 2 feet 2 inches above the third deck. The armor was not indented, but the projectile left a black circle about 6 inches in diameter within a partial black ring about 8 inches in diameter on the face of the armor. This is listed as Hit 4 in BuShips report on the *South Dakota* battle damage.

⁶⁶ Hit 23 in BuShips report on the *South Dakota* battle damage. Original estimate was an 8-inch AP, but this is inconsistent with the damage and a 14-inch Type 3 incendiary round is more consistent. Spraying water on the magnesium filled incendiary tubes results in the production of hydrogen gas. Magnesium burns so hot it separates the water molecules hydrogen from oxygen and ignites the hydrogen which then uses the oxygen as an accelerant.

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This is the view of the main belt and the black circle. I simply feel the flat nose carbonized on the main belt when it detonated. I do believe this hit came from the *Atago* and was scored at 0106.⁶⁹

At 0106 *Washington's* Fire Control reported that the forward group (forward main battery turrets) was getting to its limit of train (148 degrees). *Washington* fired 9-gun broadside (66 shells) fired. I believe hit 15 detonated just to the left of the port rudder leaves a detonation scar on her hull and jamming her port rudder 85 degrees to starboard.⁷⁰ There is a fragment hole just forward of the rudder post at this location. There is another un-documented hit I believe which occurred at this time as well. The area around her port outer shaft as it enters the hull approximately frame 258. I believe this is

⁶⁹ *South Dakota*, Action Report, night engagement 14-15 November 1942, with Japanese naval units, off Savo Island.

⁷⁰ Based on the 2019 survey of the wreck her port side just aft of her port rudder shows a blast impression on the hull. Her keel is slightly pushed up and a shell detonating at this location would force the port rudder hard over to starboard which is exactly what we see. I believe this damage is scored around 0106 as soon after she was observed circling to port which will present her port side to *Washington* for the 0107 impacts. The port rudder is jammed to starboard at approximately 85 degrees. The starboard rudder is approximately turned to about 10 degrees starboard. Normally the rudder can't turn more than 30 degrees off center.

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the third under-keel detonations that struck *Kirishima* aft.⁷¹ This damage I believe also plays a critical role in why *Kirishima* will circle to port despite her rudders being jammed to starboard. At 0106 *Kirishima* is attempting to withdraw and has turned away so her stern is directly pointing at *Washington*. I believe this damage was scored around 0106 with *Washington's* second to last salvo. Multiple shells land near her stern and this one detonates under her keel blasting the plates that covered her shaft as it enters the hull peeling them back.

Before *Kirishima* sank her records say she only had one operational engine room and that was the inboard port engine. I had assumed in 2009 based on witness accounts the loss of the engine rooms was due to fires being swept down through her forced draft ventilation. Indeed this still may be the case but after seeing more of the damage her stern took I believe now her propellers were significantly damaged and this forced the crew to shut these engines down. A non-contact explosion over this area that can blast the steel plates away are very likely to rupture the shaft seals that lead back to the engine room. Lt.Cdr. Kyūshichi Yoshino received reports of flooding in the engine rooms and was worried about the crew at these locations. *Kirishima's* engine rooms did not take a direct hit so what was the source of the reported flooding? I believe the shaft seals for this shaft are ruptured and while her pumps could easily control such flooding turning the shaft probably did not help so this engine I believe was shut down either as a precaution or to help control flooding. *Kirishima* fires 4 guns independently (86 shells) fired.

At 0106.30 *Kirishima* began to circle to port. I believe the damage to her starboard propellers has force her to shut down her starboard engines and the port side outer shaft is also shut down. With the port rudder jammed 85 degrees the too starboard it is trapping all the water on the port side. Her only remaining operational engine which is her port side inboard engine is directly in front of the heavily jammed port rudder. She is no longer applying any thrust on her starboard side and minimal thrust on her port side. With the inboard port engine, the only one applying forward momentum it was pushing the water directly against the heavily jammed port rudder and therefore she circled to port despite her rudders being jammed to starboard. *Kirishima* fired another 4 guns for a total of (90 shells) fired at *South Dakota*. All bombardment rounds have now been expended. A total of 68 Type 3 projectiles and 22 Type 0 HC shells have been expended with four main caliber hits scored. After this time, she began to fire Type 1 AP rounds with full charges. It has been 5 minutes 30 seconds since she opened fire at 0101 and her crew has now finally made the switch to armor piercing rounds. In this same time *Washington* has hit her with at least thirteen 16-inch caliber AP rounds with more to arrive within seconds.

⁷¹ The first at 0105 that hit the starboard aft hydraulic pump room and then exited the hull detonating and damaging both starboard propellers which resulted in both starboard engines being shut down. The second and third are scored at 0106 which jam her port rudder hard to starboard and disable the outer port engine by breaking the shaft seals resulting in flooding of the port outer engine room.

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0107 November 15, 1942

At 0107 *Washington* fired her last nine-gun broadside with a total of (75 shells) fired at *Kirishima* and cease firing. *Washington* reported “Main battery target burning and heading away. Enemy BB ceased firing.” The cruisers did check fire but *Kirishima* was still firing up to 0110. *Washington*’s secondary battery fired a total of 227 5-inch AA common shells during this phase. The main battery continued to track the burning ship for ten minutes. During this time *Kirishima* was observed to make a 500-degree turn (Almost one and a half complete circles). Course of 180 degrees given to *South Dakota* by CTF 64 (Lee) by TBS but no receipt was received. At 0107 *South Dakota* reported main battery salvo, no data available. This was the first main battery salvo fired by *South Dakota* but there was no information on her target or results.⁷² Her secondary guns had been shooting at *Atago*. *Kirishima*’s turret two was destroyed by two hits to the barbette resulting in hits 16 and 17 but the time of its destruction is not known and could be from 0105-0107. Also hit 18 entered the port side hydraulic pump room and hit 19 entered turret two magazine. Two 5-inch shells hit hull outside port engine room near turret three on the port side for hits 20 and 21. At present I believe *Kirishima* was hit between 17-21 16-inch shells and 17-20 5-inch shells. Three hits which are currently listed as 5-inch were reported as medium caliber hits. All are in locations where we can’t confirm the projectile type. Two were in the bow which has been destroyed and the third was listed as a direct hit on the main gun rangefinder which has not been in the debris field. Therefore, I feel a range is the best estimate and not a specific number. *Kirishima* fired 4 guns (94 shells fired in total).

0107.30-0110 November 15, 1942

At 0107.30 *Kirishima* fired another four guns (98 shells) fired. At 0108 *Atago*’s lookouts report, “*Kirishima* is burning and she is gradually lagging behind.” Kondo observed hits being scored on *South Dakota* by *Kirishima*’s and *Takao*’s gunfire and viewed her as heavily damaged and sinking. He ordered a turn north in a vain hope that he can disengage *Kirishima*, but she can’t follow. The second battleship became his priority and to keep his force between the U.S. battleships and Tanaka’s transports. Capt. Ijuin ordered, “Hard to port, stand by for a gun torpedo action to port!” At 0108 *South Dakota* reported ceased firing, no targets, no fire from enemy, *Washington* not in sight, no communication by TBS. Later investigation showed all forward antennae shot down. Between 0108 to 0109.30 *Kirishima* fired her aft guns independently and expended another 16 rounds bringing her total to 114. *Kirishima* fired 3 guns

⁷² Is it possible that *South Dakota* hit *Kirishima* with one or both known port side hits to *Kirishima*’s hull? It is theoretically possible, but I have no information as to her target, the number of guns fired, and it is equally possible she was not targeting *Kirishima*. Her records for this salvo do not provide enough information. What is known is *Washington* also fired at 0107 and it is known her target was *Kirishima* and a straddle was achieved. Since both hits to *Kirishima* were below the waterline, a straddle is enough because *Washington* would not be able to observe these hits. At this time, I do not feel I have enough data to support a claim that credits *South Dakota* with a hit on *Kirishima*, but I also do not exclude the possibility. For this article I will give *Washington* credit for both port side hits.

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for a total of 117 rounds fired at 0110 and her main battery fell silent due to a loss of hydraulic pressure needed to train the gun turrets and elevate the guns.

According to Ikeda, *Kirishima* fired 68 Type 3 [incendiary], 22 Type 0 [HE], and 27 Type 1 [AP] 14-inch shells at the enemy battleship. Lookouts reported ten 14-inch shell hits on *South Dakota*. I believe I can confirm a total of six. Hit 2 and 11 were 14-inch Type 0 HC shells. Hits 15 and 23 were by 14-inch Type 3 Incendiary AA projectiles that broke apart and hit 26 from a Type 1 AP round. Hit 21 was made only by a cap head from a Type 1 AP round. Lt Ikeda's secondary battery scored at least 7 hits 1, 3, 13, 14, 16, 20, and 24 were likely 6-inch shell hits from *Kirishima*.

Hit 21 is consistent with a 14-inch Type 1 AP projectile cap and this hit along with Hit 26 may have been scored with *Kirishima*'s final salvo at 0110. ⁷³

By 0110 *South Dakota* reported engagement broken off, proceeding at full speed on course 235 degrees true. Ship repair parties and personnel not essential at damaged stations fighting fires, caring for wounded and estimating damage. Observed splashes on wake, 1000 yards astern. No enemy ships observed firing. Possibly one of those left burning. Received word at 0110 that main battery turret three was having difficulty training due to a 14" shell hit by gas seal.⁷⁴ On *South Dakota* an area of the 50-pound STS shell 24 inches in diameter at frame 87 starboard between the second and third decks was indented to a depth of six inches. At 0110 an estimated 14-inch armor piercing projectile detonated upon hitting the barbette of Turret III at frame 123-1/2. The 17.3-inch armor was gouged to a depth of about 1-1/2 inches over an area of 15 inches in diameter. Surface cracks covered this area and vertical cracks developed in the armor to 8 feet aft of the point of impact. The blast blew a hole in the main deck 3 feet wide extending around the barbette for 10 feet. Around the hole the main deck was dished down 8 feet from the barbette between frames 121 and 130. Some fragments were deflected down and aft riddling the starboard side of bulkhead 129 in numerous places between main deck and second decks including one hole 26 inches by 35 inches. Some fragments continued through C-204L on the starboard side of the barbette considerable damage was done to equipment, mess tables, and ventilation ducts. The armored second deck defeated all fragments. Fragments and blast deflected upward from the point of impact demolished gas seal and water shed for 30 feet around the circumference of the barbette, gouged the gun sleeves of the right and center gun of Turret III and ignited the gun bloomers. Some difficulty was experienced in training the turret after the hit, but it was believed that the turret was still able to fire. Fragments ranging aft on main deck damaged 20 mm guns, ready service boxes, gun

⁷³ *South Dakota*, Action Report, night engagement 14-15 November 1942, with Japanese naval units, off Savo Island.

⁷⁴ Hit 26 was a 14-inch AP shell. There are two scars on barbette showing where the shell nose impacted below main deck level and the shell base slapped near the top and this sideways impact detonated the TNA filler, sending shrapnel into bulkhead 129 below the main deck. Circular cracks in barbette show armor was impacted with tremendous force that only an AP shell could have made. Additional damage from *Kirishima*'s main battery from Hit 21 in BuShips report caused large dent due to a near miss by 14-inch AP sending cap head and windscreen into side. AP shell traveled forward detonating below the waterline and opened seams forward 12 feet below waterline. For more information on the damage suffered by *South Dakota* during the Guadalcanal battle, please see [South Dakota Damage Analysis](#).

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shields, starboard catapult, and fire plug 1-133-2. Other fragments spreading forward pierced the superstructure on the main and first superstructure deck. On *South Dakota*, all batteries ceased firing after 0110, shortly after turret three reported training trouble because of a shell hit somewhere near the gas seal ring. This hit was later identified as a fourteen-inch shell hit from fragments recovered in that area, and the size of the indentation in the barbette. The column of four ships which illuminated *South Dakota* sustained heavy casualties. The leading ship, presumed to be a battleship, was seriously damaged and undoubtedly set on fire. It may be that this ship fired its last gesture salvo at *South Dakota* which scored a fourteen-inch hit on the barbette of turret III at the end of the action. 0110 Engagement broken off, proceeding at full speed on course 235°T. Ship's repair parties and personnel not essential at damage stations fighting fires, caring for wounded and estimating damage done. Observed splashes on wake 1000 yards astern. No enemy ships observed firing. Possibly one of those left burning.



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USS *South Dakota* Turret III after AP hit by *Kirishima*

This damage is consistent with a 14-inch Type 1 AP projectile and is documented as to being scored at 0110 with *Kirishima's* final salvo. *South Dakota* was turning to port to disengage and thus was healing over to starboard. The projectile impacted the main deck first, pushing it down, then struck the barbette below the main deck. This hit resulted in a 1.5" deep gouge in the barbette armor. The projectile then base-slapped the barbette further down, resulting in the upper scar where it detonated, sending fragments down onto the second deck which were all stopped by her main armored deck.⁷⁵

Lt.(jg) Kobayashi received reports that there were fires in both the forward main battery turrets and in the aft secondary battery casemate guns. The XO orders both forward and aft magazines flooded, and a starboard list appears. Fires were being swept into the machinery compartments and Kobayashi next reported a machinery breakdown and speed was lost until *Kirishima* was dead in the water. *Kirishima* had been hit by many shells and multiple fires had broken out both topsides and below decks. First hits smashed her fore turrets and destroyed the forward wireless station. Next, she took several hits aft, so that turrets Nos. 'C' and 'D' lost their hydraulic power and the hull was holed below the waterline.⁷⁶ He estimated that *Kirishima* has been hit by 20 main caliber hits and over 10 secondary hits. He speculates 5-6 torpedo hits below the waterline.

0114-0135 November 15, 1942

At 0114 *Washington* reported from spot one, looks like someone opening fire on us on the starboard quarter, ordered to train main battery turrets to 150 degrees relative. At 0114 Capt. Ijuin ordered a torpedo salvo of four torpedoes to be launched at the enemy battleship bearing 015 degrees port (*South Dakota*). At the same time a course change to 300 degrees was ordered. At 0115 *South Dakota* reported attempting to raise *Washington* on 2620 KCS, all efforts hopeless until antennae cleared. By 0117 *Washington* was sighted steaming parallel course on port bearing 090 by the *Atago*. By 0118 Capt. Ijuin ordered the next torpedo salvo to be fired. The *Atago* at 0120 Capt. Ijuin ordered to stand by to open fire from main battery, distance 13,000 meters. At 0120 *Washington* changed course to 340 degrees true. *Atago* turned to 330 degrees at 0128. *Atago* reported at 0129 that *Washington* was bearing port 115 degrees. At 0131 Capt. Ijuin ordered to make smoke and that *Washington* continued to turn to an opposite course. *Washington* at 0132 the lead ship that the main battery was tracking began to make smoke. At 0133 *Washington* changed course by a starboard turn to 180 degrees true and began her withdrawal from the battle zone. By 0135 contact was lost and she withdrew from battle. *Atago* had fired 55 Type 91 armor piercing shells and 6 Type 0 High Capacity shells, forty-nine

⁷⁵ *South Dakota*, Action Report, night engagement 14-15 November 1942, with Japanese naval units, off Savo Island.

⁷⁶ The 2019 survey of the wreck shows direct hits to the port side hydraulic pump room and the aft starboard hydraulic pump room. The aft hydraulic pump room hit below Turret 'D' was captured on film by Dr. Bob Ballard.

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five-inch type AA common shells, fifteen 25 mm shells and 19 type 93 torpedoes. *Takao* had fired only 36 type 91 armor piercing shells and 20 type 93 torpedoes between 0102 and 0114.

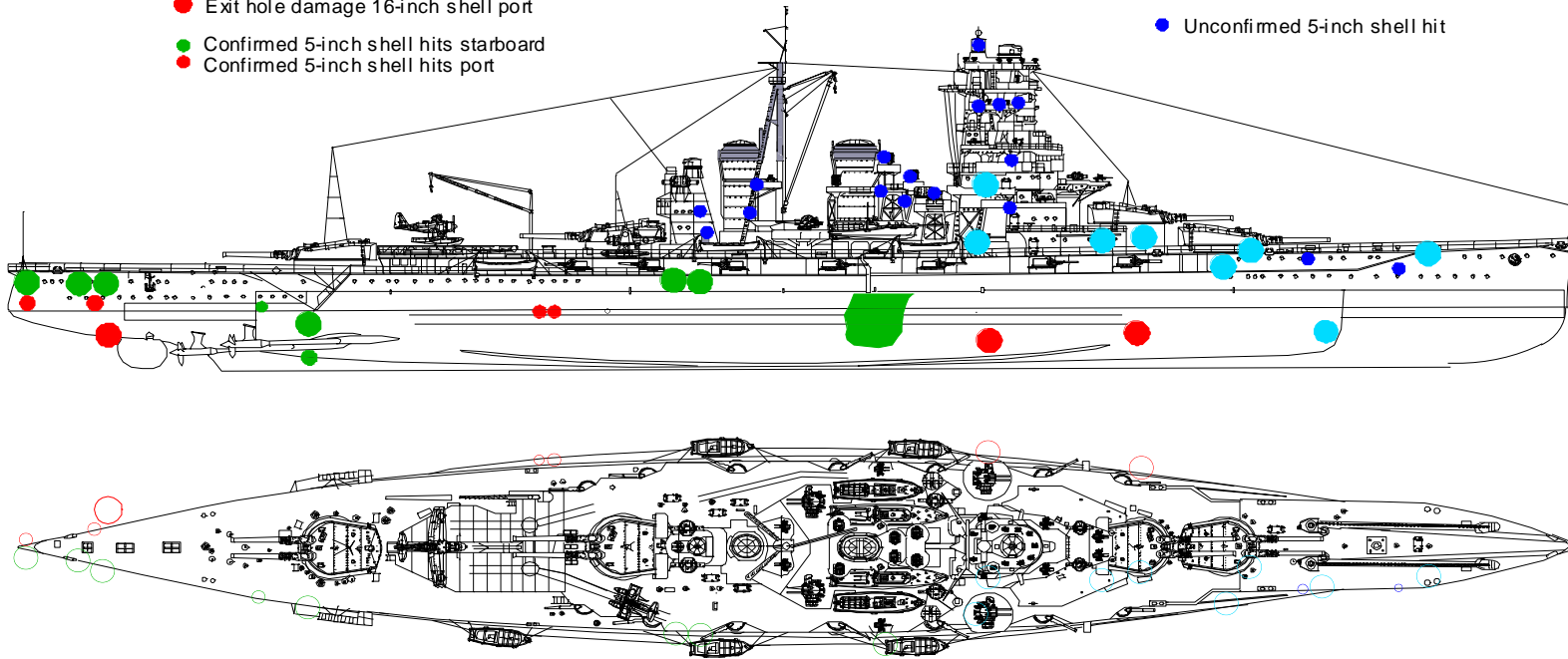
According to Lt. Ikeda and the chief damage control officer Lt. Cdr. Hayashi told him that *Kirishima* had received fourteen major caliber hits above the waterline and 17 medium caliber hits as well as six underwater hits all rated as major caliber. According to Ikeda, *Kirishima* fired 68 Type 3 [incendiary], 22 Type 0 [HE], and 27 Type 1 [AP] 14-inch shells at the enemy battleship. Lookouts reported ten 14-inch shell hits on *South Dakota*. The Damage Control Officer Hayashi prepared a hit scheme in which Lt. Ikeda meticulously copied. The hit scheme below is based on the 2019 wreck survey and where Lt. Ikeda placed hits that the wreck cannot confirm due to its condition.

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Kirishima November 1942

- Confirmed 16-inch shell hit starboard
- Confirmed 16-inch shell hit port
- Exit hole damage 16-inch shell starboard
- Exit hole damage 16-inch shell port
- Confirmed 5-inch shell hits starboard
- Confirmed 5-inch shell hits port

- Unconfirmed 16-inch shell hit
- Unconfirmed 5-inch shell hit



Kirishima's hit locations based on 2019 survey of wreck by Paul Allen Group

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According to Kobayashi, the XO ordered the port voids flooded to correct the starboard list and this was quickly corrected. Then a port list appeared, and the XO ordered starboard voids flooded and again the list disappeared for a time. Captain Iwabuchi wanted to beach *Kirishima* using the destroyers or *Nagara's* help to tow his wounded ship. He would then use her as a floating battery until all shells were expended. All signaling devices had been destroyed so Kobayashi lent his flashlight to signal the destroyers in order to pass heavy wire ropes to them. Two or three of the destroyers closed in and *Kirishima's* bosun was ordered to pass heavy wire ropes to them. Kobayashi was sent to anchor deck to observe the progress of towing operations. On the way he met the Chief Engineering Officer and his aide, both heading for the bridge and panting heavily. The engineering spaces were full of flames and smoke and communication by voice pipes was now impossible. Iwabuchi ordered the machinery spaces evacuated and the crew to report to the upper deck. Both men departed to deliver the message, but the message came late with heavy casualties among the engineering crew, most likely due to smoke inhalation. Eventually only the port inboard engine room remained operational. By 0149 some of the fires were being brought under control. All attempts to steer with engines failed. Divers were sent into the steering compartment, but they were unable to penetrate the watertight scuttles.

The Captain of *Nagara* however refused to tow the crippled battleship. Iwabuchi then sent a corresponding signal to C-in-C, Combined Fleet requesting he order *Nagara* to help tow his ship.⁷⁷ The port list re-appeared, and the XO ordered additional starboard voids flooded and the list again disappeared for a short time. A starboard list appeared next and kept increasing, so that standing on the bridge became impossible. "*Commence counter flooding port voids!*" Ono ordered with a surprisingly calm voice. There was no result. Just then the DDs started towing, but *Kirishima* did not move at all. "*Towing is impossible*" one of the DDs reported using a blinker. The list was still worsening. Then the starboard list grew steadily, and the XO ordered all port voids flooded but the starboard list only grew so that standing on the bridge became impossible⁷⁸ The bridge fell silent as the officers realized their ship was sinking beneath them and that they could not stop it. According to Kobayashi, the XO and Captain Iwabuchi had a hurried conversation in which the XO suggested that it was time to abandon ship. Iwabuchi ordered Kobayashi to use his flashlight to signal the destroyers to come along side and begin to take off the crew. He ordered all sailors to report to the upper deck. This

⁷⁷ The author has no information as to whether Admiral Yamamoto ever received this signal.

⁷⁸ Damage to the underwater body of the ship has the same effect on reserve buoyancy as added weight has, since the result is the added weight of the flooding water. If the damage extends above the waterline after the ship has settled to its new position in the water, an additional loss of reserve buoyancy is present. This additional loss is due to the destruction of the watertight envelope of the ship. Further sinking or rolling of the ship will not immerse a buoyant volume but instead will result in the addition of more flooding water and a further loss of stability. A ship with a negative GM and off-center flooding can be recognized by an excessive list for the known off-center weight, a lopy or sluggish slow roll about a given list angle, or a flop from side by side with a greater angle of the list to one side. The most probable cause for a negative GM in warships is loose water. An attempt to reduce the list by correcting for off-center weight first may cause the ship to flop to an even greater angle of list to the other side or even to capsize. Any use of ballasting or shifting weights must consider the free surface effect as additional water is being taken into the ship and a further loss of reserve buoyancy must be acceptable. Proper corrective actions must first be made for the negative GM however for this to be effective, the hole allowing the water to enter must be completely plugged.

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time the orders were sent by runners. The bridge was evacuated soon afterwards. On his descent from the battle bridge, Kobayashi noted many dead on the level below and on the upper deck.

Lt. Cdr. Ikeda remained at his station, but then suddenly, he received the order to descend to the upper deck, given for the whole ships company. At first everything seemed to be in order, but on the third bridge level Ikeda encountered a scene of destruction,⁷⁹ The ladder was twisted in several places and even the foremast tripod legs had become visible. There were also dead bodies everywhere. Once on the deck, he could see that there was an increasing list to starboard and several fires raging below decks Ikeda headed for the stern, but in the amidships area he saw two ten-meter wide holes in the deck right above the secondary guns.

Lt. Cdr. Kyūshichi Yoshino received an order to report to the bridge. He squeezed himself out of the narrow hatch and climbed topside. He noted that the superstructure was all shot up and he saw several corpses lying amidst the wreckage. The ship was all blacked out. He later learned that this was intended as a measure to avoid enemy PT boat attacks. In the dark he could see sailors emerging from every passage and manhole. The starboard list continued to grow and Captain Iwabuchi ordered the port engine room flooded. Led by the skipper we sang „*Kimi ga yo*” and gave three bonsais. Destroyers came alongside at both sides aft. It was still black and evacuating all wounded took quite some time.

According to Kobayashi, *Asagumo* came alongside the starboard quarter and *Teruzuki* to port. Then XO made a short speech and then ordered the ship to be abandoned. The battle flag was lowered, and the crew gave three bonsais and began to board the waiting destroyers. The officer who carried the emperor’s portrait boarded *Asagumo* first then followed by the wounded. Most of the men had transferred to the destroyers with about 300 men remaining when *Kirishima*’s starboard list shifted over to port. Kobayashi had barely stepped aboard *Asagumo* when the BB’s bow upended sharply. With a lurch and the momentum of her turning over to port increasing, *Teruzuki* had to do an emergency back full to avoid being crushed by the capsizing battleship’s superstructure. *Asagumo* cut all lines with the sinking ship and backed away in time. The last 300 men were thrown into the water including Captain Iwabuchi and XO Ono who were later picked up by the destroyer *Samidare*. *Kirishima* capsized to port and then slipped away by the stern into the depths of Iron Bottom Sound at 0323 of the morning of November 15, 1942.

Lt. Cdr. Ikeda along with Lt. Cdr. Hayashi felt the ship suddenly shift her list from starboard to port and had to jump overboard as the ship began to capsize. They were both rescued by the destroyer *Samidare*. Sixty-one officers and petty officers were rescued in addition to 1,031 sailors. Approximately 209 men were killed in action aboard *Kirishima*.

With the withdraw of *Washington* the path was now clear for Admiral Tanaka and his last four transports to reach Tassafaronga. At 0400 he ran these last four transports (*Kinugasa Maru*, *Hirokawa Maru*, *Yamura Maru* and *Sangetsu Maru*) aground. By daylight planes from the US carrier *Enterprise* started bombing the transports and supplies stacked on the beach,

⁷⁹ Compass bridge level and forward telegraph room.

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sinking one transport. Then the U.S. destroyer *Meade* arrived sinking the other three transports. *Meade* then rescued the survivors from *Walke* and *Preston*. Admiral Tanaka had only delivered 2,000 men from the 38th division, 1,500 bags of rice, which was only 4 days' worth of rations, and 260 boxes of ammunition.

In three days of battle, the United States lost two light cruisers, seven destroyers and twenty-six aircraft with a loss of 1,732 sailors and airmen. The Japanese had lost two battleships, one heavy cruiser, three destroyers and forty-one aircraft with a loss of 1,895 Japanese sailors and airmen. Eleven Japanese transports had been sunk and the bulk of the 38th army division with over 5,000 men had been lost.

Admiral Yamamoto's commitment to Guadalcanal was tentative at best. He never developed a plan to place the island under siege and block U.S. access to it, despite having superior forces available. At Guadalcanal the battleships *Fuso*, *Yamashiro*, *Ise* and *Hyuga* would have been extremely useful, but the decisions by the Japanese high command after Midway denied these assets from active use. Halsey on the other hand used every ship at his command and committed them to battle. His forces suffered grievously but the convoy of transports which was his main strategic target was indeed destroyed.

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Strategic Review

The Japanese had defeated the United States battle fleet at Java Sea, Savo Island, Tassafaronga, and inflicted heavy losses during the Naval Battle of Guadalcanal. The hastily thrown together U.S. forces lacked cohesion. Friendly fire had cost Admiral Scott his life and multiple U.S. ships suffered friendly fire and were sunk. The night battles had quickly degenerated into brawls vs an effective use of combat force needed to conduct a proper fleet engagement. The Navy's tactical doctrine had focused on "major tactics" or those tactics that govern a major fleet action. Opportunities for the employment of "major tactics" were lacking in the two years following Pearl Harbor due to the damage inflicted on the American battleships. The surface battles that did occur in the early stages of the war resulted in the heavy use of light forces and long-range carrier duels. These developments revealed tactical flaws in U.S. doctrine.

The Navy had neglected "Minor tactics" or those that would govern light forces prior to hostilities and commanders were expected to draw up battle plans and doctrines themselves. For this method to be effective, this required individual units to train together under the same commanders in order to become a cohesive unit. The war showed that the tactical situation may change rapidly, and units would need to fight as a cohesive unit without such training. This showed that "minor tactics" could not be left to commanders that were not being given adequate time to prepare prior to battle. Initially commanders attempted to communicate through bulletins or memos, but this produced inconsistency or redundancy.

Prior to the war, U.S. carriers operated only in pairs and this was the case during 1942. However, the fleet was expanding rapidly, and additional carriers were about to enter the fleet. While dispersion of carriers when there were only a few made sense, as more entered the fleet this arrangement would become impractical. New, multiple carrier formations and tactics were required. Improved fighter direction, improved radar and mutual support for the carrier formations would evolve and become the primary choice for offensive operations by the admirals in command of the fleet. Multiple carrier formations could operate independently and strike at targets simultaneously without the need of a willing partner. Strike operations were easier to implement and carry out over maneuvering a fleet into position to conduct a fleet action.

Multiple carrier formations, however, were not without risk. A single carrier formation could be overwhelmed and defeated in detail. Carriers had shown they were not survivable platforms and needed protections from air, surface, and sub-surface threats. This required the battle fleet to protect them and the new fast battleships were ideally suited for such a task. This ran counter to the concentration of force required by the battleships for a fleet action.

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Carriers had shown they could fight a war of attrition, but the battle fleet could deliver a blow so severe it might end the war in one afternoon. Nimitz was faced with a dilemma. Approach and tactical doctrines were desperately needed that could balance the respective powers of the carrier and the battle fleet. In June, the Joint Chiefs of Staff asked Nimitz to develop an overall strategy and what would be required for a Central Pacific Offensive.

“June 15, 2220 COMINCH to CINCPAC. Most secret for Adee only. From Joint Chiefs of Staff to Nimitz. As explained in War Dept. 4952 of 14 June Joint Chiefs of Staff are now considering the employment of forces to mount operations against the MARSHALLS from PEARL or South Pacific about 15 November. Joint Chiefs of Staff direct you submit an outline plan for the seizure of the MARSHALL ISLANDS to include following and occupation: A - List of forces required for seizure. B - Shipping required. C - Positions to be seized. D - Concept of plan. E - Proposed date for initiation of operations. F - Major favorable and unfavorable factors.”⁸⁰

The Joint Chiefs of Staff at the Trident Conference in Washington D.C. had agreed with the British for an invasion of Italy and a cross channel invasion of Europe in 1944. In return, the British accepted the Strategic Plan for the defeat of Japan. This plan called for the defeat of Japan through blockade and cutting off the oil from the South China Sea with sustained strategic bombing of Japanese cities and the invasion of Japan’s home Islands. Allied forces were to converge on Hong Kong and the China coast. King said that by accepting this plan the British had tacitly turned over control of the Pacific War to the Americans and Nimitz was thus free to move troops without getting advance authority from the Chiefs.⁸¹

Operation Granite would be the code name for Nimitz’s overall strategy. At its heart were two major objectives. The first was to maintain unremitting pressure against Japan and the second was the complete destruction of the Imperial Japanese Navy as soon as possible. Each operation was well planned so Operation Galvanic for the invasion of the Gilberts, Operation Flintlock and Catchpole for the Marshalls, Operation Hailstone for Truk, Operation Longhop for Manus and Operation Forager for the Marianas were all worked out prior to Operation Galvanic beginning. The logistical train for the Marine and Army units for all the operations were already built up so as soon as the first operation was completed the next could begin without any delay and this would maintain extreme pressure on the Japanese. In each of these operations they all had tactical plans to bring about a decisive fleet action if the opportunity presented itself. By staying forward deployed and establishing tactical blockades around target islands it was felt this would eventually bring out the Japanese fleet and an opportunity for its destruction would present itself.⁸²

There were multiple problems that needed to be worked out well in advance of the offensive. Carriers would push the initiative and pace of the offensive. To do these aircraft

⁸⁰ Nimitz, Chester, *Nimitz Gray Book*, Vol. 3 Page 1606.

⁸¹ Potter, E.B. *Nimitz*, Pages 240-241.

⁸² Hone, Trent, *U.S. Navy Surface Battle Doctrine and Victory in the Pacific*, Naval War College Review. Page 78.

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carriers could not be tied to the amphibious assault. Yet, amphibious assaults also needed air support. The solution was to build escort carriers that could be massed produced. Each escort carrier could operate about thirty aircraft so for every three escort carriers about the same number of planes as an *Essex* class fleet carrier would be available. Task groups based on six of these escort carriers were formed and these task groups would support the landings and provide the landings vital air support. This would free the fleet carriers and allow them to attack the outlying islands and rear areas of the Japanese defense perimeter which was in keeping with Admiral Turner's threat of permanency prior to the war. This would keep the enemy guessing as to U.S. intentions and they would be forced to expend resources to defend these areas.

The fleet carriers required the fast battleships protection and dispersal to raid and maintain pressure on the rear areas, but the battleships required concentration to deliver a blow capable of fighting a battle of annihilation. The demands of such a strategy were contradictory and ships and men would have to become a cohesive unit without training. Nimitz chose three surface officers and one aviator to revise the Pacific Fleet Cruising Instructions. This group consisted of Rear Admiral Robert M. Griffin, Captain E. M. Crouch, Captain Roscoe F. Good, and Captain Apollo Soucek and together they produced Current Tactical Orders and Doctrine, U.S. Pacific Fleet, PAC 10. PAC 10 solved two significant problems. First, as noted, the creation of a single, common doctrine allowed ships to be interchanged between task groups, and this in turn enabled the rapid operational tempo Nimitz desired. Second, shifting the development of small-unit tactical doctrine to the fleet level and out of the hands of individual commanders increased the effectiveness of all units, particularly the fast-moving carrier task forces. Tactical and operational plans for the coming offensive were built on this foundation. This would allow the task forces to change from a carrier centric fleet to a battleship centric fleet with few instructions. In addition, the plan for the decisive battle called for the use of all weapon platforms available. It was not either aircraft or battleships but a combined effort that would maximize all available firepower.⁸³

To accomplish Nimitz's plan, a major fleet action as a strategic objective was one of the primary goals. The destruction of the Imperial Japanese Navy would allow the United States to implement a strategic level blockade on Japan without interference and open the Japanese home islands to invasion. Fighting at long range in 1942 had shown it was almost impossible to produce a battle of annihilation through carrier aircraft alone largely because carrier borne air attacks could not be sustained and were only available during daylight hours. This allowed fleets to disengage and escape destruction. The amphibious operation would dictate the geographical area that would be contested. By seizing Japanese territory, the U.S. Fleet would force the Japanese fleet to come out to fight. The tactical blockades would be established by the old battleships of Task Force 1. They would secure the seas around the target island cutting off all lines of communication and providing direct support for the Marines and Army. This would allow lesser ships such as cruisers and destroyers to do their job without interference. Present in numbers, the only way to break such control would be for the Japanese battle fleet

⁸³ Hone, Thomas C. (2013) "*Replacing Battleships with Aircraft Carriers in the Pacific in World War II*, page 9.

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to commit to battle. Failure to break such control would doom the Japanese garrison to defeat. Unable to replenish no matter how well dug in or how determined they fought, the defending Japanese garrison would eventually exhaust themselves while the U.S., having freedom of the seas, could replenish at will and maintain effective fighting units indefinitely.⁸⁴ By seizing the island, land-based air units could maintain the blockade as naval forces advanced to the next target and protect the supply train as American forces moved west. This would cut off the lines of communication with any Japanese held islands to the south of the American advance as it moved west towards China. This was the implementation of the 1906 War Plan Orange and was fundamentally a battleship or battle-fleet offensive. Satō Tetsutarō's 1907 nightmare for the defeat of Japan was about to become reality.⁸⁵

Many historians express this as a secondary role for the battleships. This was not true. They were always going to first seize territory with the Marines and Army as part of the U.S. base seizure and amphibious doctrine.⁸⁶ This would force the Japanese to come to them. The old battleships were slower than the Japanese battle fleet, so the U.S. had no way of forcing a decisive battle on the open ocean. By the U.S. taking territory, if Japan wanted to keep this territory only their navy can do it. This was Mahan's third principle being applied. No island, no land mass not even a continent can be defended if the enemy has control of the sea. This was the basic point Mahan made on how navies influence and is decisive and can propel a nation state to superpower status.

Effectively, this policy meant that the U.S. now has two battle fleets, not just one. The first consisted of the amphibious groups which included the older battleships and supported by escort carriers. The second consisted of the fast carrier battle groups which included the new battleships built in the 1930s and 1940s.

⁸⁴ Mahan, Alfred T., *The Influence of Sea Power upon History*, pages 42-43. The third principle was the extent of territory. More than any other principle it will be this principle that demonstrated itself in World War II in the Pacific. Islands are defenseless without a navy to protect them. Islands surrounded by the seas were vulnerable to having all lines of communication cut off through blockade and this in turn opened the island to invasion. One of the most important concepts in understanding naval warfare and how it affects events ashore is the concept that the sea is an extension of the land territory that an army cannot occupy.

⁸⁵ Satō Tetsutarō through his study of the Caribbean maneuvers and applying them to a U.S./Japanese war had correctly outlined U.S. policy even before the U.S. developed War Plan Orange. This included strategic blockade. The Naval General Staff armed with how the United States as a hypothetical enemy could destroy Japan through command of the seas and blockade could now justify the funds from the Deity in order to build the Imperial Japanese Navy that would fight the United States during the Second World War. Only the Imperial Japanese Navy could protect the people of Japan, and only if given free rein. Only the Imperial Japanese Navy could protect kokutai and the Emperor himself. The cry for self-defense would become the most serious threat Japan had ever faced. TAKAHASHI Fumio, *The First War Plan Orange and the First Imperial Japanese Defense Policy: An Interpretation from the Geopolitical Strategic Perspective*, NIDS Security Reports, No.5 (March 2004)

⁸⁶ Admiral George Dewey in 1902 conducted the Caribbean exercise for war plan black which was a fictitious war with Germany. To begin the process of developing techniques as well as validating the equipment necessary for this new organization, the Marine Corps participated in exercises with the fleet on the island of Culebra in 1902 and 1903. These were the first exercises of their kind, involving dragging heavy guns up hills, building gun emplacements, and getting from ship to shore. As one of the first such exercises it was more focused on the rudimentary details required to conduct advanced base work. *The Development of Amphibious doctrine*, David C. Emmel, Major, USMC Oregon State University, Corvallis Oregon 1998, page 11.

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The war effectively prolonged the service of the older battleships, so by the fall of 1943 Nimitz had two battle lines he could deploy. He would use the older battleships to implement the war plan they had been built to implement. The core power to this offensive was the amphibious operation, not the carriers and not the fast battleships and not the submarines. Seizure of the Gilberts, Marshalls, Caroline, and Mariana Island groups would make available approximately twenty airfields, fifteen seaplane bases, eight submarine bases, and ten fleet anchorages. This allowed the fleet to stay forward deployed and cut off anything to the south and east of the U.S. forces as they move west toward China.

Nimitz understood that as siege weapons battleships not only could control the traffic on the water but also on land and naval gunfire support would overwhelm the Japanese army and its defenders. Julian Corbett wrote that it was not the enemy battle fleet in joint operations that was the strategic target but the enemy army that was the strategic target. So, the fleet carriers and fast battleships are a covering force in support of Task Force 1 and the amphibious assault on the island that Nimitz wants. In order to stop the offensive, the Japanese must not only defeat the covering force but also destroy Task Force 1 and the Marines and Army and reclaim the territory being contested. Destroy the covering force alone would not stop the advance or the offensive which would simply continue to move west.

For the decisive battle plan Nimitz wanted to use every available platform and concentrate all available firepower into the task. His plan called for deploying submarines as advanced scouts in the likely areas the Japanese fleet may deploy. Aircraft were again only available during the day. Submarines could scout both night and day and would play an important role in security. They could attack targets of opportunity and possibly cripple or destroy important targets resulting in attrition of the enemy force. If the Japanese deployed and were a willing partner for a decisive battle the U.S. battleships would be concentrated and placed in advance of the U.S. carriers. Ideally U.S. forces would maneuver at night so that by dawn both U.S. surface forces and carrier forces would be in position to attack with a combined assault. Carrier aircraft would cripple as many enemy ships as possible and battleships would annihilate the cripples. This was what Nimitz wanted to implement to produce Mahan's decisive battle. Once the Imperial Japanese Navy was destroyed the control of the seas would fall to the U.S. and Japan would be blockaded and open to direct invasion. Japan would be forced to surrender, and the war and fighting could stop. This was how Nimitz envisioned winning the war.