



# H-Gram 015: "Take Her Down!" and "Remember the *Maine*!"

6 February 2018

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USS Growler (SS-215), circa 1942 (80-G-394372).

## 75th Anniversary of World War II

### "Take Her Down!"— Commander Howard Gilmore and USS Growler (SS-215)

"For distinguished gallantry above and beyond the call of duty." *In the night of 7 February 1943, Commander Howard Gilmore, USN, sacrificed his life to save his boat and his men, becoming the first submariner in World War II to be awarded the Medal of Honor. Gilmore had already been awarded two Navy Crosses for his valor on the first two war patrols of USS Growler (SS-215), including sinking the Japanese destroyer Arare and damaging two other destroyers (and barely dodging their torpedo counter-attack) in one attack on his first patrol near Kiska in the Aleutians. Prior to the war, as executive*

*officer of the submarine Shark (SS-174), Gilmore had survived having his throat cut while ashore in Panama. Gilmore's luck ran out on Growler's fourth patrol. While approaching a Japanese convoy for a night surface attack in the shipping lane between Truk and Rabaul, an alert Japanese ship (the food supply vessel Hayasaki) spotted and attempted to ram Growler. In the brief melee that followed, Growler actually rammed the Hayasaki instead, resulting in serious damage to the submarine's bow and disabling her forward torpedo tubes. At near-point-blank range, Japanese machine-gun fire hit Growler's bridge, killing the junior officer of the deck and a lookout, and wounding two other men and*

Gilmore. Gilmore's wounds were serious. In the interval it took to get the wounded men and bridge team below, Gilmore realized he could not get off the bridge in time for Growler to escape, and gave the order to "Take her down!" with him still topside. The executive officer, Lieutenant Commander Arnold Schade, dazed as a result of falling from the conning tower, hesitated only momentarily before obeying his skipper's order and submerging the boat. Both vessels actually survived the encounter (Hayasaki survived the war and was turned over to the Soviet Union as reparations). Schade took Growler back at daylight to the scene of action in a vain attempt to find his skipper.

Growler made it back to Brisbane, Australia, where she was repaired with a refabricated bow decorated with two nickel kangaroos, earning her the nickname "Kangaroo Express." Schade was awarded a Navy Cross for his action in bringing the severely damaged boat to safety; he would go on to complete 11 war patrols, eight as commanding officer, earning a Silver Star and eventually retiring as a vice admiral. Thanks to Gilmore's sacrifice, Growler made seven more war patrols, sinking the destroyer Shikinami, the frigate Hirado, and several cargo vessels, and rescuing Allied prisoners-of-war from a sunken Japanese "hell ship." Growler's luck ran out on 8 November 1944 during her 11th war patrol, when she was lost while attempting to attack a Japanese convoy off Mindoro, Philippines. The submarine was probably sunk by the convoy's escorts, two coastal defense ships and the destroyer Shigure (a storied ship that had been sole survivor of several brutal battles, although her luck ran out on 24 January 1945, when she fell prey to Blackfin (SS-322)), although it is also possible that Growler was sunk by one of her own torpedoes. Please see attachment H-015-1 for Commander Howard Gilmore's Medal of Honor citation.

### **Guadalcanal Campaign: Battle of Rennell Island and Operation Ke**

In late January 1943, all the intelligence indicators strongly pointed to another major Japanese effort to retake Guadalcanal similar to the pushes in September, October, and November that had all

resulted in horrific battles ashore, at sea, and in the air. In response to the Japanese build-up at Truk and Rabaul, Admiral Nimitz committed virtually the entire operational U.S. Pacific Fleet to Vice Admiral Halsey's South Pacific Force. Both operational carriers (the repaired USS Enterprise (CV-6)—and USS Saratoga (CV-3)) three modern battleships, additional cruisers (including three new-construction Cleveland-class light cruisers) waited south of Guadalcanal to counter, or preferably ambush, the reconstituted Japanese carrier force when it came. Three times in the first week of February 1943, a force of over 20 Japanese destroyers (the "Reinforcement Group") steamed to Guadalcanal, fighting off long-range U.S. air attacks at dusk, and the first night engaging in a vicious fight with U.S. PT-boats that resulted in the loss of three PT-boats and one Japanese destroyer. Intelligence provided to U.S. Army Major General Alexander Patch (who had relieved Marine Major General Alexander Vandegrift and the 1st Marine Division in command of U.S. forces on Guadalcanal) suggested the Japanese had landed at least a regiment of troops on the island (which wasn't much compared to U.S. troop strength that would soon reach 50,000). It wasn't until 7 February that advancing U.S. Army troops realized that they were only being opposed by Japanese troops who couldn't walk, armed only with a rifle, poison pills, and orders to do what they could to slow down the U.S. troops, with their names meticulously recorded by the Japanese so their sacrifice would never be forgotten. Only then did the Americans realize we'd been had by one of the most effective deception operations by any side in the war. Operation Ke was an evacuation, not a reinforcement, and the Japanese successfully withdrew over 10,000 troops without significant loss from the island, albeit leaving behind over 20,000 dead and a handful of dying (and another 10,000 who had been previously lost at sea, including about 3,800 Japanese Imperial Navy sailors.)

The weeks between the U.S. debacle at the Battle of Tassafaronga on 30 November 1942 and the start of Operation Ke were marked by several largely forgotten but bloody battles between the U.S. and Japanese navies. With the loss of a heavy cruiser and three more heavy cruisers put out of action for months at Tassafaronga, the U.S. stopped sending

large ships into Ironbottom Sound, leaving the PT-boat squadrons (Motor Torpedo Boat Flotilla One) based at Tulagi to oppose further efforts by the Japanese "Tokyo Express" to get supplies to their troops on Guadalcanal. On the next Tokyo Express run after Tassafaronga, on 3 December, the U.S. PT-boats accomplished the same thing as the U.S. cruisers had (preventing the resupply effort) at far less cost. The Japanese only attempted one more supply run, this one more successful, on 11 December. In January, U.S. surface ships began to venture for the first time up "The Slot" toward the central Solomon Islands to bombard a Japanese airfield being constructed (and soon abandoned) on Munda. A Japanese air attack following the bombardment mission saw the combat debut of the highly secret variable-time (VT) fuze ammunition for the 5-inch/38-caliber guns aboard the new U.S. cruisers. With the 5-inch VT fuze and the Bofors 40-mm guns (which had made their debut at the Battle of Santa Cruz on October 1942), U.S. surface ships finally had reliable anti-aircraft guns that could knock down Japanese aircraft prior to weapons' release, while the increasingly dense thicket of Oerlikon 20-mm guns on U.S. ships ensured that many Japanese aircraft that got through the 5-inch and Bofors wouldn't come back a second time.

At end of January, the Japanese got in two more severe blows on the U.S. Navy. The Japanese deployed two elite squadrons of G4M Betty bombers that had been extensively trained to conduct night torpedo attacks, and on the night of 29 January, the Bettys hit the heavy cruiser USS Chicago (CA-29)—survivor of the Battle of Savo Island—with two torpedoes near Rennell Island, southwest of Guadalcanal. Through valiant damage control efforts by Chicago's crew, the crippled ship was kept afloat and was being towed from the battle area by USS Louisville (CA-28). However, a series of tactical blunders, which caused even the normally even-tempered Nimitz to blow his stack, left the Chicago vulnerable to air attack late the next afternoon. Despite heavy losses, Japanese bombers hit the cruiser with four more torpedoes, sending her to the bottom, and also damaged the destroyer La Vallette (DD-448) with a torpedo. On 1 February, Japanese dive bombers caught the destroyer De Haven (DD-469) off the north shore of Guadalcanal, hitting her in

the forward magazine and causing a massive explosion that sent her to the depths of Ironbottom Sound with most of her crew, including her skipper, Commander Charles Tolman. De Haven wouldn't be the last; in April 1943, Japanese bombers would sink the destroyer Aaron Ward (DD-483)—survivor of the Battle of Friday the 13th—off Guadalcanal.

With the Battle of Rennell Island and the end of Operation Ke, the Guadalcanal campaign was effectively over (although the last Japanese holdout on the island didn't surrender until October 1947). After six months of some of the most vicious combat in the history of naval warfare, the increasingly strong U.S. Navy was in possession of the waters around the eastern Solomons. The cost to both sides had been extremely heavy, and roughly even at sea and in the air. On land, Japanese army casualties greatly exceeded those of the U.S. Marines and U.S. Army. The Battle of Midway stopped the Japanese advance, but the Guadalcanal campaign was the true turning point of the war in the Pacific. The cost to the U.S. Navy included two aircraft carriers, five heavy cruisers (plus one Australian heavy cruiser), two light cruisers, 15 destroyers, three destroyer-transport, and one transport, plus about 615 aircraft (of all services, including 90 carrier-based) and just under 5,000 Sailors killed (including 130 naval aviators and air crew, plus 92 Australian and New Zealand naval personnel, but not including 49 Marines embarked aboard ship). Almost three times as many American Sailors died at sea defending Guadalcanal as American Marines and Army personnel died on it. During the brutal six-month campaign, the U.S. Navy "abandoned" the U.S. Marines for a grand total of four days, yet that myth lives on. However, to the Corps' credit, they remember and venerate the extraordinary sacrifice and valor of the Marines who held that embattled disease-ridden island against repeated Japanese attacks, while the U.S. Navy has largely forgotten the extraordinary sacrifice and valor of those Sailors who enabled the Marines to hold fast. For more on the end of the Guadalcanal campaign, please see attachment H-015-2.

# 120th Anniversary of Spanish-American War

## **Remember the Maine!"**

*On the evening of 15 February 1898, in the harbor of Havana in the Spanish colony of Cuba, a forward magazine on the second-class battleship USS Maine exploded, sinking the ship. The catastrophic event killed 253 of the ship's 355 crewmen; eight others died later from wounds or shock. Of the 94 survivors, only 16 were uninjured. Despite multiple investigations, what caused the magazine to explode has never been conclusively determined. An internal coal fire is the most common explanation in modern literature, but there are some serious weaknesses in that explanation as well. Other U.S. Navy ships narrowly avoided such disaster from spontaneous combustion of bituminous coal during this time frame, but this was a well-known danger, with procedures in place to counter it. Regardless, U.S. newspapers immediately jumped to the conclusion that the Maine had been destroyed by a mine planted by the Spanish. Tensions between the United States and Spain at the time were very high, as American public opinion had been inflamed by reports of Spanish atrocities (some true, most not) committed against the Cuban population that was attempting to gain its independence. The Maine had been sent to Havana as a show of force in support of U.S. interests in Cuba during the rebellion. When the United States declared war on Spain two months later in April 1898, the destruction of the Maine was not listed as a cause for war. Nevertheless, the phrase "Remember the Maine! To hell with Spain!", which accurately reflected widespread American public opinion, certainly affected the vote of Congress in favor of war.*

*Most investigations on the loss of the Maine have focused on the technical evidence to prove or disprove the mine theory, which generally remains inconclusive. Much less has been written on "what did Spain have to gain by such an action?" The Spanish clearly understood the technical and numerical inferiority of their navy at the time; they had no interest in getting into a war with the United States. After the event, Spain repeatedly offered to*

*conduct a joint investigation into the sinking. No evidence has ever surfaced as to who would have mined the Maine, how they did it, and why they did it. If it was a plot by someone, they covered their tracks exceedingly well. Not surprisingly, the current communist government in Cuba claims that the United States deliberately blew up their own ship as a pretext to go to war with Spain and take over Cuba as an American colony. There is no actual evidence for this theory either.*

*In Naval Academy lore, the Maine is claimed to be the longest ship in the Navy because the mainmast is at Arlington National Cemetery (along with most of the crew) and the damaged foremast is at the Naval Academy. As it turns out, there are guns and other parts of the Maine scattered in cities all over the eastern United States, including at the Washington Navy Yard (currently undergoing conservation and restoration). For more on the sinking of the Maine, please see attachment H-015-3.*





*Mrs. Howard W. Gilmore is presented with her husband's Medal of Honor by Rear Admiral Andrew C. Bennett, USN, Commander, Eighth Naval District, 18 August 1943. Standing by are the Gilmore's son, Howard, Jr., and daughter, Vernon Jeanne (80-G-2661).*

## H-015-1: Medal of Honor Citation for Commander Howard Gilmore

*H-Gram 015, [Attachment 1](#)*

*Samuel J. Cox, Director NHHC*

*February 2018*

"For distinguished gallantry and valor above and beyond the call of duty as Commanding Officer of USS *GROWLER* during her Fourth War Patrol in the Southwest Pacific from 10 January to 7

February 1943. Boldly striking at the enemy in spite of continuous hostile air and anti-submarine patrols, CDR Gilmore sank one Japanese freighter and damaged another by torpedo fire, successfully evading severe depth charges following each attack. In the darkness of night on 7 February, an enemy gunboat closed range and prepared to ram the *GROWLER*. CDR Gilmore daringly maneuvered to avoid the crash and rammed the attacker instead, ripping in to her port side at 11 knots and bursting wide her plates. In the terrific fire of the sinking gunboat's heavy machineguns, CDR Gilmore calmly gave the order to clear the bridge, and refusing safety for himself, remained on deck while his men preceded him

below. Struck down by the fusillade of bullets and having done his utmost against the enemy, in his final moments, CDR Gilmore gave his last order to the officer of the deck, 'Take her down.' The *GROWLER* dived; seriously damaged but under control, she was brought safely to port by her well-trained crew inspired by the courageous fighting spirit of their dead captain."



*Cruisers of Task Force 18 at sea en route to Guadalcanal on 29 January 1943, prior to the Japanese night air attack off Rennell Island. Photographed from USS Wichita (CA-45). USS Chicago (CA-29) is in the right center, with USS Louisville (CA-28) in the distance. Note men on Wichita's deck working on a paravane (80-G-38824).*

## H-015-2: Guadalcanal Campaign—Battle of Rennell Island and Operation Ke

*H-Gram 015, Attachment 2  
Samuel J. Cox, Director NHHC  
February 2018*

Most narratives of the Guadalcanal campaign tend to peter out after the Battle of Tassafaronga and jump to the final Japanese defeat and evacuation in February 1943. The reality is that the

Japanese navy continued to fight with extraordinary audacity and tenacity, on several occasions inflicting serious losses to the U.S. Navy. The U.S. Navy continued to learn, albeit sometimes slowly, from its experience in night surface combat around Guadalcanal, aided by increasingly advanced technology, including airborne radar and variable-time (VT) fuzed anti-aircraft ammunition. In many cases, U.S. Sailors displayed incredible valor in the final months of the campaign, especially the U.S. PT-boats operating from Tulagi. Most of these actions have now faded into relative obscurity.

During the Battle of Tassafaronga on the night of 30 November–1 December 1942, the U.S. Navy, at great cost, had thwarted the Japanese navy's first attempt to resupply Japanese troops on Guadalcanal using the new floating supply-drum method. The Japanese tried again on 3 December, fighting off a 15-plane long-range U.S. air attack from Guadalcanal at dusk and proving that radically maneuvering high-speed destroyers were very difficult targets to hit. The ten destroyers dumped 1,500 drums of supplies just off Guadalcanal, but at dawn, strafing from U.S. aircraft sank most of the drums before Japanese troops could retrieve them.

The Japanese quickly adjusted their drum tactics and tried again with 12 destroyers on 7 Dec, under the command of Captain Sato, who had been so effective at Tassafaronga. Thirteen Marine SBD dive bombers attacked the Japanese destroyers at dusk, damaging one destroyer that had to be towed back by another, at the cost of the squadron skipper, Major Joseph Sailor, USMC. Sato pressed on with the remainder of his force and was met by eight U.S. PT-boats (including *PT-109*, not yet under the command of future President John F. Kennedy) off Savo Island. In the night battle that followed, which included *PT-59* and the Japanese destroyer *Kurushio* exchanging machine-gun fire at a range of 100 yards, the U.S. PT-boats launched numerous torpedoes, which did not hit, but successfully drove off two attempts by Sato's destroyers to get close enough to Guadalcanal to deliver their drums. By driving off the Japanese, without loss, the PT-boats accomplished the same thing that had cost the U.S. Navy four heavy cruisers sunk or crippled the week before, one of the best showings by PT-boats in the entire war.

The next day, the Japanese navy announced to the Japanese army that it was terminating "Tokyo Express" supply runs effective immediately because continued losses of ships at the rate since November would preclude the Imperial Navy from being able to achieve victory in the

great "decisive battle" that their Mahanian doctrine called for. The Japanese army, whose troops on the island were literally starving, was not amused, especially since they had been goaded by the navy into committing wave after wave of troops to the island in what was supposed to have been a definitive campaign. In the face of vociferous army protests, the Japanese navy agreed to one more Tokyo Express run to Guadalcanal. Relations between the Japanese army and navy, never good to begin with, only became more poisonous. Shortly after, U.S. Navy transports landed three regiments of the U.S. Army's 25th Infantry Division on Guadalcanal (bringing U.S. troops on the island to near 50,000, while the Japanese could muster well less than 10,000 fit to fight.) On 9 December, Major General Alexander M. Patch, U.S. Army, relieved Major General Alexander Vandegrift, U.S. Marine Corps, in command of U.S. Forces on Guadalcanal. Most of the Marines of the 1st Division, exhausted by months of combat with Japanese and jungle diseases, were withdrawn.

The Japanese continued resupply efforts by submarine that had begun the previous month, making three deliveries in the first week of December, before U.S. Navy radio intelligence pinpointed the schedule for the next delivery. In the pre-dawn hours of 9 December, the Japanese submarine *I-3* surfaced right between *PT-44* and *PT-59* waiting in ambush, and was hit and sunk by a torpedo from *PT-59* (Lieutenant Jack M. Searles, commanding) which actually worked. Searles was awarded the Navy Cross. The Japanese suspended further submarine supply runs.

The last Tokyo Express run, under the command of Rear Admiral Raizo Tanaka, commenced on 11 December with 11 destroyers, five of them as escorts. U.S. intelligence provided precise warning, and the Tokyo Express was met by 14 Marine dive bombers at long range at dusk. However, no hits were achieved. Once again, the U.S. PT-boats were waiting (five of them). This time, the Japanese managed to get 1,200 drums



into the water just off shore, but as they were withdrawing, *PT-37*, *PT-40*, and *PT-48* all launched torpedoes, one of which struck Tanaka's flagship, the destroyer *Teruzuki*, knocking the admiral unconscious. As *PT-44* and *PT-114* closed in on the flaming Japanese destroyer to finish off the kill, the destroyers *Kawakaze* and *Suzukaze* found the range on *PT-44* (Lieutenant Frank Freeland, commanding), hitting her multiple times and sinking her. Only two of *PT-44*'s crew of 11 survived. At 0315 on 12 December, the Japanese gave up trying to save *Teruzuki* and scuttled her. Although the mission was a "success," only 220 of 1,200 drums actually made it to shore, at the cost of a destroyer.

Beginning in mid-November, the Japanese attempted to secretly build an airfield at Munda, on the island of New Georgia about 170 nautical miles up the Solomon Islands chain to the northwest of Guadalcanal (which would considerably shorten the 500-nautical mile flight from Japanese bases at Rabaul). Despite elaborate deception efforts, U.S. aerial reconnaissance and Allied coast watchers detected the construction activity. Throughout early December, U.S. aircraft from Guadalcanal repeatedly bombed the incomplete airfield, but construction continued. The Japanese suffered a major setback when the U.S. submarine *Seadragon* (SS-194) torpedoed the transport *Nankai Maru* carrying construction troops intended to build an airfield on the island of Kolombangara, just to the northwest of New Georgia. While attempting to assist the immobilized transport, the destroyer *Uzuki* collided with the other ship and lost power as well. Four other destroyers took the two ships in tow, but one of the destroyers was hit by an air attack in the process and was seriously damaged. By 27 December, the Japanese gave up trying to complete the airfield on Munda, but continued to fly some planes from the airstrip. Also on that same day, the Japanese resumed submarine resupply missions to Guadalcanal.

On 28 December, General Sugiyama, the chief of the Imperial Japanese Army, and Admiral Nagano, the chief of the Imperial Japanese Navy, informed Emperor Hirohito of their intent to withdraw from Guadalcanal, a decision reluctantly reached after several weeks of intense staff discussions and planning. On 31 December, Sugiyama and Nagano went back to the emperor with their detailed plan and strategy for the future conduct of the war, which the emperor approved. Hirohito had intended to issue a very rare imperial rescript, reserved only for occasions of utmost significance, when Japanese forces recaptured Guadalcanal. He informed the leaders of the army and navy that even though the battle for Guadalcanal would end in withdrawal, he intended to issue a rescript anyway to acknowledge the heroic sacrifices of his soldiers and sailors. To do such a thing for a defeat was unheard of, but the profound significance of the act in Japanese culture was deeply appreciated by all who served in the battles on and around the island.

In early January, the planning for Operation Ke, the Japanese withdrawal from Guadalcanal, commenced in earnest. As a result of war-gaming the plan, Commander-in-Chief of the Combined Fleet Admiral Isoroku Yamamoto, assessed that he would lose half the destroyers committed to the operation and probably only save one third of the Japanese army forces still alive on the island. Yamamoto built up a large force at Truk Island, including the veteran fleet carrier *Zuikaku*, the medium carrier *Junyo*, light carrier *Zuiho*, the two super-battleships *Yamato* and *Musashi*, the older fast battleships *Kongo* and *Haruna*, as well as heavy and light cruisers and numerous destroyers. Part of the deception included building up shipping at Rabaul to over 100 vessels. Another part included using the heavy cruiser *Tone* to conduct diversionary operations east of the Marshall Islands (U.S. naval intelligence correctly identified *Tone*'s operation, and the shelling of Canton Island by a submarine, as a diversion). In addition, *Zuikaku*'s 64-plane air group would

operate from ashore at Rabaul. The Japanese would commit about 436 aircraft in support of Operation Ke, operating from land bases in the northern Solomons, and a few float planes from sea bases in the central Solomons. The Japanese also changed their communications codes and call signs on 1 January, which didn't do much to prevent U.S. Intelligence from fairly accurately detecting the impending operation and the units involved. The true Japanese intent, however, remained unknown.

U.S. naval intelligence was aware of the Japanese build-up of ships at Truk and Rabaul, and aircraft, troops and transports at the latter, and assessed them as preparations for yet another Japanese attempt to re-take Guadalcanal. In anticipation of the Japanese operation, Admiral Nimitz essentially committed the entire operational capability of the Pacific Fleet to countering the expected Japanese offensive. By the end of January, these forces included the carriers *Enterprise* (CV-6) and *Saratoga* (CV-3) with about 160 aircraft; the new fast battleships *Washington* (BB-56,) *North Carolina* (BB-55,) and *Indiana* (BB-58); and 13 cruisers and 45 destroyers, all assigned to Vice Admiral William Halsey. Even four old battleships (including repaired Pearl Harbor survivors) and four new, but slow and small escort carriers (with about 178 aircraft) released from the Atlantic at the conclusion of Operation Torch were committed to Halsey. Including land-based aircraft, the Allies mustered about 570 planes, including an growing number of radar-equipped PBY flying boats, the famous "Black Cats" of VP-12, which gave the U.S. an increasing advantage in night aerial reconnaissance. Throughout late January, intelligence indicators of a major impending Japanese operation poured in, the purpose of which the Japanese successfully kept a secret.

On 30 Dec, the Japanese resumed Tokyo Express runs to Guadalcanal, with destroyers fitted with additional 13-mm machineguns for anti-PT-boat defense, and float planes from cruisers would

provide air cover. Ten destroyers under Rear Admiral Tomiji Koyanagi commenced their run, with the usual dusk encounter with U.S. strike aircraft from Guadalcanal, alerted by coast watchers and radio intelligence that the Express was coming again. One destroyer was damaged and turned back with another as escort, and several U.S. aircraft were shot down. Eleven PT-boats met the Express in the darkness near Savo Island, but the covering Japanese float planes actually had an easy time detecting PT-boat wakes even at night, and successfully drove the PT-boats off. Koyanagi's destroyers succeeded in getting about five days' worth of supplies ashore.

After covering the arrival of seven troop transports to Guadalcanal, at 2000 on 4 January 1943, a force of three light cruisers, *Nashville* (CL-43), *St. Louis* (CL-49), and *Helena* (CL-50), and two destroyers, *Fletcher* (DD-445) and *O'Bannon* (DD-450,) under the command of Rear Admiral Walden L. Ainsworth, proceeded northwesterly up the Solomon Island chain from Guadalcanal, a first for U.S. Navy surface forces. Their mission was to conduct a night bombardment of the Japanese airstrip at Munda. Ainsworth's planning was meticulous. A radar-equipped Black Cat PBY scouted ahead of the force. Other PBY's embarked spotters for the bombardment ships, while cruiser-launched float planes provided flank reconnaissance (a much more valuable use than catching fire on the catapult after the first salvo, which had been somewhat the norm). The submarine *Grayback* (SS-208) performed service as a navigational marker in the poorly charted and treacherous waters around New Georgia. Commencing at 0102 on 5 January, the three light cruisers and two destroyers poured 4,000 rounds of 6-inch and 5-inch shells onto the airstrip. It took the Japanese two hours to get it operational again in the morning. The Japanese air counter-attack caught Ainsworth's bombardment group as it rendezvoused with other Allied cruisers off Guadalcanal and was in the vulnerable position of recovering float planes. Japanese dive bombers scored near misses on the light cruiser USS

*Honolulu* (CL-48) and hit and damaged the New Zealand light cruiser HMNZS *Achilles*, knocking out her number three turret. Two dive bombers were shot down, one of which was the first enemy aircraft downed by the new VT-fuzed 5-inch anti-aircraft shell. The "variable-time" fuze had been developed in great secrecy, and used a battery-powered radio transmitter that detonated the shell when it sensed it was in lethal range of the target aircraft. The innovation greatly increased the effectiveness of 5-inch guns in an anti-aircraft role.

On 11 January, eight Japanese destroyers commenced another Tokyo Express run, this time successfully avoiding coast watcher observation, so there was no traditional dusk attack by Guadalcanal-based aircraft. Nine PT-boats engaged the Japanese that night off Guadalcanal. As *PT-43* attacked, one of her torpedo tubes malfunctioned, causing a powder flash that immediately drew Japanese fire, which killed three and disabled the boat. *PT-43* had to be scuttled the next day by a New Zealand corvette to keep it from drifting into Japanese-held areas. *PT-40* and *PT-112* launched torpedoes, both claimed a hit on the destroyer *Hatsukaze* (which was hit by one torpedo), but Japanese counter-fire sank *PT-112*, although her crew survived. The damaged *Hatsukaze* made it to safety, but only about 250 supply drums reached shore.

Poor weather protected the next Tokyo Express on 14 January, and the Japanese float planes providing cover off Guadalcanal beat off the U.S. PT-boats. However, aircraft from Guadalcanal caught the nine destroyers on their return transit at dawn and damaged two destroyers for the loss of several aircraft. Attacks by B-17 bombers on the destroyers were typically ineffective, although their heavy defensive armament shot down five of the ten Japanese float planes trying to protect the destroyers.

On 20 January, a Japanese long-range four-engine Emily flying boat attacked *Espiritu Santo*,

far in the Allies' rear area, a strike that happened to coincide with the arrival on *Espiritu Santo* of a U.S. party including Secretary of the Navy Frank Knox and Nimitz. The next night, the same party was subject to an unusually intense nighttime raid on Guadalcanal by nine Betty bombers. There is no evidence that Japanese intelligence had advance indication of the senior official party's itinerary, but the attacks did provoke the U.S. Navy to take a major round turn on communications security practices.

In late January, U.S. radio intelligence detected aviation-related messages coming from Kolombangara, and subsequent aerial photographic reconnaissance detected an airfield under construction and a staging area for supply barges. Halsey directed Rear Admiral Ainsworth to bombard the new airfield, which necessitated a night transit past New Georgia and into the confined Kula Gulf. American aircraft bombarded Munda on 23 January to divert attention, but Japanese scout aircraft detected Ainsworth's force in the late afternoon. Ainsworth changed course as if he was headed to bombard Munda again, which fooled the Japanese. This was fortuitous, because the Japanese had a surprise in store for Ainsworth: the G4M Betty bombers of the elite 701st and 705th Air Groups, which had developed effective tactics for conducting night aerial torpedo attacks. The Japanese were frustrated when they found nothing off Munda. Meanwhile, Ainsworth's cruisers had resumed course for the Kula Gulf under cover of darkness. Supported by a Black Cat PBY, the light cruisers *Nashville*, *Helena*, and destroyers *Nicholas* (DD-449), *De Haven* (DD-469), *Radford* (DD-446), and *O'Bannon* opened fire on the airfield on Kolombangara at 0200 on 24 January. This time, the 3,500 rounds of 6-inch and 5-inch shells did significantly more damage than the previous bombardment of Munda. Moreover, as the Japanese commenced repairs at dawn, a 59-plane strike from *Saratoga*'s air group (staging from Guadalcanal) plastered the airfield.

On 25 January, the Japanese navy launched the first massed daylight air raid on Guadalcanal since November, this time with land-based aircraft including 18 Betty bombers escorted by 76 Zero fighters (although 18 Zeroes had to abort due to weather). The Bettys were intended as bait and turned away before 53 Zeroes rolled in for a sweep over Guadalcanal, against only 14 U.S. fighters that managed to scramble airborne. Somewhat surprisingly, the U.S. lost no aircraft, most likely due to the poor weather conditions that disrupted the Japanese plan.

The next day was the Imperial Japanese Army's turn (a first in the southern Solomons) and nine Kawasaki Ki-48 Lily twin-engine bombers and at least 74 Nakajima K-43 Oscar fighters of the 6th Air Division, preceded by two Mitsubishi Ki-46 Dinah reconnaissance aircraft, attacked Guadalcanal. In the air battle that followed over the island, the Japanese shot down seven U.S. aircraft for a loss of six Oscars. A third mass air attack was scheduled for 29 January, but was postponed.

Provided with detailed information derived from radio intelligence, the Royal New Zealand Navy corvettes *Kiwi* and *Moa* waited in the designated location for a Japanese submarine to surface off Guadalcanal at 2100 on 29 January. *Kiwi* gained sonar contact on the *I-1* at 2105, just as she raised her periscope, and depth-charged her to the surface at close range. *Kiwi* then rammed the submarine, and raked the boat with machine-gun fire, killing the commanding officer and setting the supply barges embarked on the submarine's aft deck on fire. Japanese Army troops embarked on the sub began jumping in the water. *I-1*'s gunners got off two rounds from her deck gun before being cut down. *Kiwi* backed off and rammed *I-1* a second, and then a third time, forcing the submarine under as her crew fired rifles at the corvette. One petty officer armed with a sword leaped to board the *Kiwi*, but only succeeded in grabbing a handhold on her side (he was subsequently taken prisoner). Up to this

point, *Moa* had been unable to engage because *Kiwi* and *I-1* were locked in close combat for ninety minutes. *I-1* then attempted to run herself aground, but sank in shallow water. The Japanese survivors desperately tried to destroy and bury classified material with only limited success. Japanese aircraft subsequently tried to bomb the *I-1* into deeper water, which didn't work. U.S. Navy divers later recovered about 200,000 pages of secret documents and cryptographic material. It was an intelligence bonanza, although the material was mostly useful in reconstructing past Japanese operations and of limited utility in predicting future actions. Even then, in June an Australian journalist blew the cover on the operation, confirming to the Japanese that a significant amount of sensitive material had been captured by the Americans.

By 29 January, a major U.S. Navy force was operating south of Guadalcanal in anticipation of the Japanese "offensive." This force included Task Force 18, under the command of Rear Admiral Richard C. Giffen, recently arrived from operations in the Atlantic. Among other things, Giffen took a dim view of Halsey's relaxed uniform standards for the fleet, insisting on wearing his tie in the tropics, which may say something. TF-18 consisted of the heavy cruisers *Wichita* (CA-45), *Chicago* (CA-29), and *Louisville* (CA-28) cruising in line-ahead, with the new-construction light cruisers *Montpelier* (CL-57), *Cleveland* (CL-55), and *Columbia* (CL-56) in a line-ahead formation to port. Giffen stationed his six destroyers in a semi-circle two miles ahead of his two columns of cruisers. He was subsequently criticized for his choice of formation, which was optimized for defense against submarines (a known and frequent threat in that area) and for rapid response to a surface threat, which is what Giffen was expecting. It wasn't very good for anti-aircraft defense, but to be fair to Giffen, no U.S. force had been subject to a major night air attack to that point in the war. Giffen's orders from Halsey were to proceed to a rendezvous point off Guadalcanal to join up with four destroyers of the "Cactus Striking Force."

After 1900, radar on the *Wichita* detected major air activity. The Americans didn't know it at the time, but this air activity was the new specialized G4M Betty groups trained for night torpedo attacks, and the two formations were circling around to the south of TF-18 so that they could attack from the eastern (darker) sector. At 1919, 16 Bettys of the 705th Air Group commenced their runs. The destroyer *Waller* (DD-466) detected the attacking planes in the dark and opened fire. One Betty crashed astern of *Chicago*, with its flames serving as a beacon. *Louisville* was possibly hit by a torpedo that failed to explode; otherwise, neither the U.S. ships nor Japanese aircraft suffered additional loss or damage. Determined to arrive at the rendezvous point on schedule, Giffen did not alter the formation's course and speed after the attack, and he even stopped zig-zagging. As a result, the second group of Betty bombers had no problem finding Giffen's force. The first group of Bettys appeared to have ignored much of their training in a rush to attack. The second group of 15 Bettys took a much more deliberate approach, with lead elements dropping floating white flares parallel to the U.S. cruiser columns, while other colored red and green floating flares were dropped in a manner that signaled the U.S. formation's course and speed to the follow-on attackers.

At 1738, the 701st Air Group commenced its attack. As the U.S. ships opened fire, the first thing that happened was that the flashes from the 5-inch guns night-blinded the gunners on the 40s and 20s. Nevertheless, the lead Betty was hit, and, trailing flames, crashed off *Chicago*'s port bow, silhouetting the ship to the following Bettys. Two torpedoes hit the cruiser on her starboard side, and one torpedo hit *Wichita*, but failed to explode. (Fortunately the Type 95 aerial torpedo did not have the same explosive force as a Type 93 "Long Lance.") Two torpedoes into a cruiser normally would have been fatal, but *Chicago*'s damage-control teams nevertheless succeeded in correcting an 11-degree starboard list, stopped

the flooding, and got one boiler back on line so the ship had some power. Taken under tow in the dark of night by *Louisville*, by daybreak *Chicago* was making three knots and clearing the area to the south with the rest of the Task Force in support. Eventually the tug *Navaho* (AT-64) arrived to relieve *Louisville*. Throughout the day on 30 January, fighters from the escort carriers *Suwanee* (CVE-27) and *Chenango* (CVE-28), and from the carrier *Enterprise* provided cover to the task force.

Japanese search planes detected the task force's movement to the south (which would clear the way for the first run by Operation Ke destroyers to Guadalcanal) and the presence of a cripple (*Chicago*) and more air attacks were launched. Coast watchers and radio intelligence provided accurate warning of the incoming strike (as well as the disposition of Japanese submarines in the area). In response to an order from Halsey to take his undamaged cruisers to a different rendezvous point, Giffen divided his force, leaving six destroyers behind with *Chicago* and *Navaho*, while the other five cruisers departed to the east (with the force fighter direction officer embarked), which greatly reduced the anti-aircraft protection for *Chicago*. By 1540, only four Wildcat fighters remained to provide air cover, and lacking any fighter direction from *Chicago* (which didn't have a fighter direction officer) the Wildcats chose to pursue a Japanese reconnaissance aircraft, putting them 40 nautical miles out of position when 11 Betty bombers sighted *Chicago* at 1606. The bombers flew past the southbound cruiser to optimize their torpedo attack from ahead. This represented a potential threat to the carrier *Enterprise*, then 40 miles to the southeast, and fighters were vectored to defend the carrier rather than to cover *Chicago*. Nevertheless, two Wildcats did manage to intercept the Bettys while they were making their torpedo runs, downing three before weapons' release, while a fourth caught fire and veered toward the destroyer *La Valette*, launching a torpedo before it crashed. This hit *La Valette* (DD-448), killing 21 U.S. Sailors, although



the ship survived. Shipboard anti-aircraft gunners shot down two more Bettys, and the two Wildcats downed two more after they emerged on the other side of the task force. Nevertheless, five torpedoes hit *Chicago* and four exploded, compounded by the damage from the earlier two hits. The damage was so severe that Captain Ralph Davis immediately ordered abandon ship. *Chicago*, survivor of the debacle at Savo Island the previous August, went down at 1643 with 62 of her crew, although 1,069 were rescued. Nimitz's report to CNO King described the result of the Battle of Rennell Island and the loss of *Chicago* as "especially regrettable because it might have been prevented." Even the new VT fuzes were unable to overcome the tactical errors in force disposition and fighter direction, although the Japanese paid heavily, losing nine Bettys (and three the previous night.)

Operation Ke was scheduled to begin on 31 January, but was postponed until 1 February. Twenty-one Japanese destroyers of the "Reinforcement Unit" gathered at Shortland Island to make the run to Guadalcanal. U.S. Army Air Force B-17s bombed the gathering that morning with no effect, but three of the B-17s were shot down as there were many more Japanese fighters in the area than expected. Japanese army bombers attacked Guadalcanal that morning with minimal effect. However, on the afternoon of 1 February, a Japanese navy strike of 13 Val dive bombers and 40 Zero fighters arrived over Guadalcanal. The U.S. destroyers *De Haven* and *Nicholas* had provided escort to the destroyer-transport *Stringham* (APD-6) and six tank landing craft (LCTs), which had landed U.S. Army troops behind Japanese lines on Guadalcanal. As the Japanese strike came in, fighter direction on Guadalcanal vectored fighters to defend the destroyers *Radford* and *Fletcher*, at a different (and less vulnerable) location, leaving *De Haven* and *Nicholas* unprotected. There was also initial uncertainty aboard *De Haven* as to the identity of the dive bombers, since Vals had not appeared over Guadalcanal for weeks. *De Haven* was

making only 15 knots, and her skipper had initially refused permission to open fire until the identity of the aircraft was certain. Six Vals dove on the destroyer at 1443 with a stunning display of accuracy. The first bomb hit amidships, the second bomb hit just aft of the bridge, and the third bomb detonated the forward magazine, blowing the ship in two and sinking her almost immediately with 167 of her crew (146 survived), including her commanding officer, Commander Charles E. Tolman. *Nicholas* barely avoided the same fate by virtue of radical high-speed maneuvers resulting in multiple near misses that damaged the ship and killed two crewmen. The Japanese lost five Vals and three Zeros in the attacks.

By the time the air attacks were over, 20 Japanese destroyers were steaming at high speed toward Guadalcanal, under the command of Rear Admiral Hashimoto. A coast watcher sighted and reported the group at 1320. Ninety-two planes from Guadalcanal launched in two groups to attack the Japanese destroyers. The result of the attack was a near miss on Hashimoto's flagship *Makinami*, which put her out of action. Hashimoto transferred his flag to *Shirayuki* and set back the operation by 30 minutes, at a cost of four aircraft. As the Japanese force arrived in darkness off Guadalcanal, 11 U.S. PT-boats lay in wait. At 2210, *PT-48* and *PT-111* attacked, each launching all four torpedoes, which failed to hit. *PT-111* was hit and sunk by gunfire from the destroyer *Kawakaze*. Meanwhile, Japanese float planes were bombing and strafing three other U.S. PT-boats. Despite the air attacks, *PT-117* closed to within 500 yards of a Japanese destroyer, firing two torpedoes at her and two more at another destroyer, without result. *PT-37* also launched four torpedoes, without result, and was destroyed by Japanese gunfire with loss of all but one of her crew. As *PT-124* and *PT-123* made their runs, a Japanese float plane hit *PT-123* with a bomb to the stern, sinking her and killing four crewmen. U.S. losses to this point were three PT-boats sunk and 15 crewmembers killed with no damage to the Japanese. Japanese float

planes also located and dropped flares and bombs on the three remaining destroyers of the "Cactus Striking Force"(now minus *De Haven*). None of the bombs hit, but any chance that the U.S. destroyers might surprise the Japanese was lost. The Japanese destroyers were not interested in an engagement, and none occurred, which was probably just as well since three U.S. destroyers against 18 Japanese destroyers probably would not have had a happy ending.

The true nature of the Japanese operation still remained unknown to the U.S. as Hashimoto's destroyers evacuated 4,953 Japanese soldiers from Guadalcanal. Following the melee with the PT-boats, the Japanese destroyer *Makigumo* suffered a massive explosion, probably due to striking a mine. U.S. destroyer-minelayers had recently laid 300 mines. The destroyer *Yugumo* took off *Makigumo*'s crew and scuttled her with torpedoes. Six SBD Dauntless dive bombers had launched from Guadalcanal at midnight in an attempt to conduct a night strike on the Japanese destroyers, but achieved no hits.

On 4 February, 20 Japanese destroyers commenced a second Operation Ke run. Seventy-four aircraft from Guadalcanal attacked, damaging the destroyer *Maikaze*, which had to be towed back to port by another destroyer, at a cost of 11 U.S. aircraft. Hashimoto's flagship, *Shirukaze* suffered an engine casualty and he again had to transfer his flag, this time to *Kawakaze*. This time, no U.S. PT-boats opposed the Japanese, having been mauled and shot most of their torpedoes during the preceding engagement. This time the Japanese destroyers successfully evacuated 3,921 troops from Guadalcanal.

The Japanese were aware of the high concentration of U.S. Navy forces in the vicinity of Guadalcanal, and Admiral Yamamoto was somewhat astonished that the first two Operation Ke missions had gone so well. There was considerable concern among the Japanese that they had pressed their luck far enough already.

Nevertheless, on 7 February, 18 destroyers under Hashimoto commenced a third run. Thirty-six U.S. aircraft from Guadalcanal attacked the destroyers, but this time the U.S. strike was intercepted by 49 Zero fighters providing cover. Despite this, only one U.S. aircraft went down, and the destroyer *Isokaze* was hit by two bombs and had to withdraw, accompanied by another destroyer. Again, unopposed by U.S. PT-boats, the Japanese successfully evacuated another 1,972 troops, bringing the total to 10,652. Over 20,000 Japanese troops had died on Guadalcanal. Only a few small isolated units remained deep in the jungle, and some troops who could no longer walk, who stayed behind in an attempt to slow the advancing U.S. Army, with some initial success. Only on 7 February did it become apparent that only dying cripples were opposing the U.S. advance, and the sprint began. On 9 February 1943, Major General Patch announced the "total and complete defeat of Japanese forces on Guadalcanal."

Operation Ke had greatly exceeded Japanese expectations. Nimitz admitted in his report to CNO King that not until all organized Japanese forces had been withdrawn on 8 February did the Americans realize the true nature of the operation. Nimitz gave great credit to the Japanese skill in deception and the audacity of their plan. The cost to the Japanese was the destroyer *Makigumo* sunk, and three destroyers damaged (when they had expected to lose half) and the total loss of about 56 aircraft. The cost to the U.S. was higher; the heavy cruiser *Chicago*, the destroyer *De Haven*, and three PT-boats sunk. The destroyer *La Vallette* was seriously damaged and about 53 U.S. aircraft were lost.

It would take both sides several months to recover and regroup from the horrific losses at Guadalcanal before more vicious and costly night surface actions resumed in the Central Solomon Islands in the summer of 1943.

(The best source for this phase of the Guadalcanal campaign is *Guadalcanal: The Definitive Account of the Landmark Battle* by Richard B. Frank, a hefty 700 pages of reading. I use Frank's numbers throughout as they are meticulously researched using sources not available when Samuel Eliot Morison wrote volume 5 of the *History of U.S. Naval Operations in World War II, The Struggle for Guadalcanal*. James Hornfischer's *Neptune's Inferno* is a shorter, easier read, but still excellent.)

# H-015-3: “Remember the *Maine*! To Hell with Spain!”

H-Gram 015, *Attachment 3*  
Samuel J. Cox, Director NHHC  
February 2018

The design of the USS *Maine* was pretty much an aberration. She had a long list of cutting-edge technological advances and an even longer list of major design flaws. In the nine years it took to build her, thanks to constantly changing requirements, budget shortfalls, shortages of key material for the untested advanced technology, inadequate industrial base, shipyard strikes, poor workmanship, and other factors, the *Maine* was obsolete before she was even finished. Originally intended to be an armored cruiser, she was completed as a battleship, but was inadequately armed (two twin 10-inch gun turrets, a host of smaller-caliber weapons, and even torpedo tubes) to be a match for battleships in other navies of the day, and she was far too slow to act as a commerce-raiding cruiser. In fact, the impetus for the construction of the *Maine* was the acquisition by the Brazilian navy of the battleship *Riachuelo* in 1883 and the realization (and embarrassment) that the Brazilian navy was the strongest navy in the Western Hemisphere—and the Chilean and Argentine navies were on pace to surpass the U.S. Navy as well. Following the U.S. Civil War, the U.S. Navy had been allowed to severely decline in terms of numbers and quality, primarily due to lack of funding, but also lack of national (or even Navy) consensus about the role of the service: to be able to fight other Navies as a fleet, or just to raid opposing nations’ commerce as individual ships.



USS *Maine* during salvage operations, 26 June 1911 (NHF-011).

Congress authorized construction of the *Maine* in 1886, and she was the largest naval vessel to be built in a U.S. yard to that time. *Maine* was finally commissioned in 1895. During the 1890s, Congress had at long last authorized a major increase in U.S. naval strength and three battleships of the *Indiana* class (four 13-inch guns) were completed shortly after the *Maine*, and significantly out-classed that ship in all respects (although even they were obsolete by 1903). *Maine* initially operated with the North Atlantic Squadron. By the outbreak of the Spanish-American War in 1898, the U.S. Navy was much improved in terms of numbers and quality of

ships, although it was still no match for the major navies of Europe. However, it would prove to be more than a match for the navy of Spain, which had been allowed to fall into a very decrepit state.

With the increase in tensions with Spain due to the rebellion in the Spanish colony of Cuba, the *Maine*, under the command of Captain Charles Dwight Sigsbee, was ordered to steam from Key West to Havana in January 1898 to protect U.S. interests in Cuba. These were considerable, and there was a very vocal lobby in the U.S. advocating annexation of Cuba as a U.S. colony, much to the consternation of Spain. U.S. newspapers hyped reports of Spanish atrocities, generating great sympathy in the American public for the rebels in Cuba. A number of U.S. newspapers practiced what has come to be known as "yellow journalism," i.e., only a loose association with the facts, the original "fake news," if you will, willing to publish just about anything to increase circulation.

The explosion of the *Maine* about 2140 on 15 February 1898, obliterated the forward third of the ship. *Maine* sank in relatively shallow water with the remains of her superstructure still above water. Most of the officers (18 of 20) survived, including Captain Sigsbee, because the officers' quarters were in the stern. The crews' quarters were in the forward part of the ship and therefore loss of life among the enlisted crew was extremely heavy. The *New York Journal* (owned by William Randolph Hearst) and the *New York World* (owned by Joseph Pulitzer) seized on the disaster as an opportunity to increase circulation, immediately blaming Spain, and offering rewards (\$50,000, a huge sum at the time) for the conviction of the criminals who had killed American Sailors. Although most political, military (and even newspaper) leaders did not find it plausible that Spain would have deliberately done such a thing, the inflammatory newspaper coverage resulted in what can only be termed as "hysteria" on the part of the American public. On 13 April 1898, the U.S. House of Representatives

voted 311-6 to authorize Republican President William McKinley to use military force to end the hostilities in Cuba (between Spain and the rebels). The vote in the Senate was closer at 42-35 for the resolution. The resolution was not technically a declaration of war, but that is how Spain interpreted it. Soon the war would be on.

The first investigation of the *Maine* explosion was conducted by the Spanish (the "Del Peral and De Salas" inquiry) and concluded a spontaneous combustion in the coal bunker adjacent to the magazine was the cause of the blast. This conclusion was ignored by the American press. The Spanish investigation also noted that no cables had been found, indicating that a mine could not have been electrically detonated, and that the dead calm conditions made striking a contact mine unlikely. Captain Sigsbee also noted that numerous Spanish officers expressed their sympathy. Spanish government correspondence indicated a serious concern that Spain would be blamed for the explosion and a strong desire that the United States would not reach that conclusion.

The U.S. Navy quickly formed a court of inquiry to investigate the explosion. The board consisted of line officers, and was initially composed entirely of officers junior to the *Maine's* captain before a more senior officer, Captain William T. Sampson, was placed in charge. The board arrived in Havana on 21 February and took testimony from survivors and witnesses, although this phase was rushed due to the potential for imminent outbreak of war. The board also did not avail itself very well of technical advice from engineers (then separate from line officers) in reaching its conclusion on 28 March that a submerged mine was the cause of the explosion of two or more of *Maine's* forward magazines. This conclusion was based on witnesses who reported two explosions in quick succession and a part of the keel at frame 18 being bent inward, indicating an external explosion. The U.S. board also noted that it could find no evidence fixing the responsibility on any person or persons.



In 1911, the U.S. Navy conducted another court of inquiry (the "Vreeland Board" led by Rear Admiral Charles Vreeland) in conjunction with an effort to recover the remains of U.S. Sailors before clearing the wreck from Havana Harbor. This time, the board included certified engineers. A cofferdam was placed around the wreck, allowing for inspection (and removal of remains). The Vreeland Board concluded that the bent keel was the result of the explosion of the magazine and not due to an external cause, and that the initial explosion was farther aft and a lower order than determined by the Sampson Board, but still reached the conclusion that a mine was the cause of the magazine explosion. (Some recent computer analysis has indicated that it would not have taken a very large external charge to have detonated the magazine.) After the Vreeland investigation, the recovered remains of *Maine's* Sailors were buried at Arlington National Cemetery, and the hulk was refloated, towed out to sea, and ceremoniously scuttled.

In 1974, for whatever reason, Admiral Hyman Rickover took an interest in the sinking of the *Maine* and commissioned an independent study, which he published in 1976 in the book *How the Battleship Maine Was Destroyed*. The research by the team was pretty exhaustive. The conclusion was that the *Maine* was most likely destroyed as a result of spontaneous combustion in a coal bunker next to the magazine. As the U.S. Navy (and other navies) transitioned to steel warships, they also transitioned from burning anthracite coal to much more volatile bituminous coal in order to generate greater power and speed. Under certain circumstances, bituminous coal was capable of spontaneous combustion, and such fires had been reported on other U.S. Navy warships before the *Maine* disaster, and other navies had lost ships as a result (although unstable cordite would prove to be a far more effective way for warships to blow themselves up in the first decades of the 20th century). It should be noted, however, that both the Sampson and

Vreeland Boards had members with first-hand experience with coal bunker fires, which were a common enough occurrence so that ships had procedures in place to guard against them (which actually worked in other cases in the U.S. Navy). Both those boards concluded that a coal fire was not the cause. There is also modern analysis of the bituminous coal burned by *Maine* based on data from where it was mined, which indicates that it actually had properties very much like anthracite, making spontaneous combustion less likely.

There have been a number of TV documentaries, additional books, and other studies, including computer simulations, since Rickover's book that have attempted to determine the exact cause of the blast. These have resulted in some additional evidence that the blast was external and some other that it was internal. There are certainly other things besides a coal fire that could have resulted in an internal blast, although there is no evidence that conclusively points to another cause, such as unstable ammunition. Personally, I find that the *Maine* was subject to a mine explosion to be highly unlikely, but there are weaknesses in the coal fire theory as well. Most of the evidence, in my view, still points to an internal cause, but sometimes, 120 years of history just refuse to give up their mysteries and we may never really know what caused the *Maine* to blow up, kill 261 Americans, and start a war.

(A key source for this item is H. G. Rickover, *How the Battleship Maine Was Destroyed*, Government Publishing Office, 1976. An article on the web "How Likely was a Coal Bunker Fire Aboard the Battleship *Maine*?" by Patrick McSherry provides no direct support to the mine theory, but does expose some weaknesses in the coal fire theory.)