The Mystery of the Gun Turret in the Desert

R. D. Hoffman & J.R. Leslie

Like many a warm afternoon west of Luzon, the sky on January 5, 1945 was light and blue with patchy clouds, visibility about 12 miles, and a steady breeze wafting over a gentle swell. Steaming NNW at 15 knots with a comfortable 50 fathoms under her keel, USS Portland and elements of CRUDIV 4 were transiting to Lingayen Gulf with the division Flagship USS Louisville fine on the starboard bow. In formation R40 since 0700 with the battleship USS Pennsylvania bearing 60 degrees true as formation lead, the heavy units of Task Group 77.2 formed an inner defensive ring around the escort carriers of Task Group 77.4, with Louisville and Portland on the left-hand side of the formation. The destroyers of both groups formed an outer screen, with HMAS Arunta abeam of the Flagship another thousand yards out.

At his battle station aboard the Portland was BMS Ted Waller, an aircraft spotter for the #1 quad 40MM mount on the starboard side. He had been there on and off since before dawn, and was looking forward to a break and his dinner. Ordinarily, being on watch topside was, for 95 percent of Ted’s war so far at least, somewhat boring and prone to reminisce, but the recent past had done away with any and all casual attitudes.

No stranger to action, Ted had been with the ship since shortly before the war. On hand for the most desperate fighting in its first year, he had personally witnessed the American fleet carriers Lexington, Yorktown, and Hornet all come to grief. His most enduring nightmare was of the time when Portland had participated in the lopsided first Naval Battle of Guadalcanal, the most ferocious engagement in the history of the USN. On deck during the night action, Ted had been wounded early on and, while lying on the deck of the wheelhouse next to a junior officer, had wondered what he would do after the ship had been torpedoed. That fear had been rekindled two months prior when, finding himself on deck facing another night engagement with Japanese
battleships, *Portland* had done her part in the Battle of Surigao Strait. But this time it had been a one-sided affair for the Americans, the IJN had blundered into a classical naval trap and effectively been annihilated. That action, among others during the Leyte Gulf operation, had for all intents and purposes rendered the last remnants of the Japanese Navy impotent.

This was now the third day of their transit, with tensions mounting as the enemy turned to sacrifice to stem the inevitable tide. Two day’s prior, a Kamikaze plane had hit the fleet oiler USS *Cowanesque*. Rapid damage control had saved her and she was still with the formation. The following day another Kamikaze plane had crashed onto the escort carrier USS *Omoney Bay*, and although heroic measures were taken, she had turned into a raging inferno. Subsequently abandoned, she was scuttled by her escort before nightfall. Since that attack had occurred in the rear of the formation, *Portland* had not been in position to help, but everyone aboard knew that could change at any moment.

As the day started so again did the radar contacts. The ship had gone to general quarters several times since before dawn, with condition I-E set in the AA-battery almost continuously. At 1614 enemy planes were again reported over the formation, and the ship went to general quarters at 1653. Three minutes later it was game on.

Two Judy’s coming in on the deck were making a run on the Flagship. The *Portland*’s skipper, Capt. T.G.W. Settle, a pioneer in balloon aviation early in his career, was well known as an aggressive ship handler. The *Louisville*’s Capt. R.L. Hicks was of like mind, and the two heavy cruisers started maneuvering radically.

![Figure 3. A Kamikaze plane is splashed close aboard HMAS *Arunta*. Naval History and Heritage Command photo 80-G-339177.](image)

Ted could hear the port side 5” guns opening up. Ahead he could see the *Louisville* was also firing to port with her 5” and then her 40MM guns. Smooth, precise, deadly accurate fire, a consequence of long practice under relentless gunnery officers, paid dividends when one of the planes came down close aboard the HMAS *Arunta*. But the second plane, which had looped around to the right of its ill-fated comrade, continued to close on the Flagship’s port bow. Ted could see her 20MM guns firing now, at two hundred yards out he saw the plane stagger and briefly catch fire, trailing a stream of dark smoke, but it plowed on relentlessly. In a final act of preservation, *Louisville*’s Captain Hicks ordered hard-a-port to present the smallest silhouette his heavy cruiser could to the oncoming plane, but at only 15 knots the ship’s response was less than sprightly. The turn necessarily reduced the number of guns that could be brought to bear, but by then everyone was desperately hoping for a miss to either side.
And then Ted saw it. Every man on
Portland’s starboard side literally felt
it. The Kamikaze impacted directly
onto Louisville’s main battery turret
#2, enveloping it, the open bridge, and
her entire foremost in an enormous
pall of flame. “Lady Lou” had just
taken one squarely on the chin.

The ship had heeled hard over a few
times in the last couple minutes. The
bread barge was moving around
without much help. This was not all
that unusual, the last few days they
had executed so many course changes
and zig-zags that the ship was rarely
on an even keel. “Feels like the old
man’s driving today” joked
Pappy.

Then they heard the 5”
battery open up. All eyes
widened a bit and looked
towards Pappy. He
slackened his chewing for a
moment, took a gulp of
coffee, and went on with
his meal. So far nobody had
issued an order, the ship
was not at general quarters,
so everyone followed suit
and resumed eating,
perhaps a little faster.

S1/c Enrico Trotta was finally off his
feet, enjoying God knows which cup of
coffee that day, and contemplating the
dinner before him. Being a Friday, it
was cold cut meats (ham, beef, salami,
and the ubiquitous spam), and canned
vegetables (beans, of course). But
fresh bread was on hand, as it was
every day, and the barge was making
its way down the table. “Rico, pass the
salt,” cried Pappy Blaylock, his good
friend and sea daddy. At 45, he was
the oldest enlisted man aboard, and
because he was such a great guy, he
pretty much filled that role for every
young sailor in the AA division. Both
men were part of Louisville’s over 100
strong 20MM battery crew, and about
a quarter of them had just sat down to
da dinner they would never finish.

When the 40MM guns joined in, and
then the 20’s, everyone got real quiet.
But still no alarm, still no Chief
running in shouting for them to get off
their asses. The ship was swinging to
port, and a howling was getting louder
when “BOOM!” The ship staggered a
bit, then throttled back, still turning to
port, but not so hard. “Get off your
asses!” roared a Chief who had shown
up in the starboard hatchway, and
everyone jumped up and ran to their
battle stations.

By the time Enrico reached his gun, #4
20MM mount on the port side of the
Focsl deck just below main battery
#2, the attack was over. Nothing
looked out of place, but there was a lot
of activity above him. Some of the
crew were fighting a fire in and
around turret #2, others on the bridge. The wounded were being helped below. He did not have time to see if he knew any of them, more than likely he did. It was a real stroke of luck that he had been off watch, or he too would have been burned, or worse. Six minutes after the ship had been hit, the general quarters alarm sounded. Too little, too late.

An Unexpected Journey

Eleven years later, on the other side of the Pacific, three men were discussing how in hell they were going to carry out a mission that was not only highly ambitious, but had a non-negotiable schedule, was likely to be under resourced, and definitely under staffed. Having all worked for the US military, the situation was by no means novel, but griping about it was not either. L-Division leader Louis Wouters had just outlined the big plan to Ervin Woodward, his right-hand man, and Bill McMaster, a military associate on loan from the US Army to the fledgling Livermore nuclear weapons lab. It called for fielding the diagnostics needed to assess the performance of four nuclear weapon designs to be detonated at the Nevada Proving Grounds during Operation Plumbbob in the summer of 1957.

Though badly damaged and now under command of her executive officer CMDR Bill McCarty, the Louisville regained her position in the formation and participated in shore bombardment duties the next morning, only to endure a second Kamikaze strike in the late afternoon that would prove even more deadly and destructive than the first. In two days of attacks she suffered 38 dead, including RADM Theodore Chandler, COMM CRUDIV4, six officers, and Pappy Blaylock. Over 100 men were wounded, including CAPT Hicks and six more of the ship’s officers. With her radar gear out of commission and her radio antennae nearly destroyed, Lady Lou could no longer perform her duties. The Division Flag transferred to CAPT Settle aboard the Portland.

The diagnostics team had just finished supporting Operation Red Wing at Bikini atoll in the Pacific, the pace of nuclear testing was on the rise, and they were all feeling worn out.
“So we have three tower shots in Area 2 to diagnose in ten weeks, and then another in Area 9 in the middle of that?” Ervin Woodward was not quite incredulous, but he knew the logistical challenge ahead of them was severe. Each device in Area 2 was to be deployed atop a five-hundred-foot tower nearly a mile from a central recording bunker. The area 9 test was more than three and a half miles away on a seven-hundred-foot tower.

The diagnostics group had developed photo-sensitive detectors that could diagnose a shot from long range. A combination of scintillators, photo-multipliers and photo-diodes were to be sheltered in special purpose bunkers (called dog houses) around each tower, each with a unique line of site to the device atop its tower. Very careful pointing and collimation was required. The detectors would send electrical signals to the recording bunker via co-axial cable which had to be buried to avoid interference induced by the explosion as well as the blast effects that would incinerate anything on the ground nearby. The cable trenches, known as “Panama Canal’s”, were often 20’ wide and 20’ deep, and could run up to a mile long. That called for a lot of construction, and a whole lot of cable, a sizable fraction of the entire amount made in the US at that time.

Erv said, “I’ve been thinking of a way we could reduce the number of bunkers and trenches we need, as well as the number of detectors to be deployed”. The idea had come to him while leafing through a copy of Jane’s Fighting Ships. “If we could develop a re-usable line of sight doghouse that could observe all the towers with, that would do the trick. All we need is a sturdy turret that’s big enough to contain all our equipment. We might even save some money!” Laughter.

Louis recalled Operation Crossroads, the first atomic weapons test after the war where naval ships were the targets. He also suggested they might find a suitable turret at the nearby Mare Island Shipyard, one of WWII’s biggest west coast repair facilities.

Bill McMaster chimed in that he knew a Navy military associate at the lab, and within the hour an officer had joined the meeting and asked them “how big do you want it?” They all three considered and figured a turret from a heavy cruiser would do nicely.
The Lt. told them there were several at Mare Island and Bill said "let's go, I'll drive". So Erv, Bill, and the Lt. eventually found themselves at the "spare turret slab" located at berth 15 between drydocks 3 and 4. Perched atop steel sheds two stories high and looking like windmills without blades were four different types of gun turrets for light and heavy cruisers. Erv said "We'll take that one."

In early 1957, a disassembled Mark 9 naval gun turret was shipped from MINS to Port Hueneme, and there put on three trucks for transport to Yucca Flat valley at the Nevada Proving Grounds (now known as the National Nuclear Security Site, or NNSS).

The turret was installed in area 2 next to the 2-330 recording bunker, (digital coordinates: 37.139451, 116.109038). The three area 2 towers with devices DIABLO, WHITNEY, and SHASTA, were erected a little less than a mile north, west, and south of the complex.

Modified at MINS for the test site, the aft 11.5 feet of the turret as well as the powder and shell handling gear was removed, the gun slide and elevation gear were retained, and two large blast doors were installed.

The left and right ports of the gun slide were sealed and the central position was fitted with a 15.7' long, 32" wide steel tube with a 6" lead-lined collimator running down the middle. The photo-detectors were mounted inside the gun slide as well as in a large lead-lined box that could be removed on railroad tracks through the blast doors.

With the ability to elevate 41 degrees and to rotate through 360 degrees, the turret could observe all the devices of interest. The towers were very stable platforms, and combined with the heavy weight of the turret, the collimator could be very precisely aimed at each device. A bonus to using towers was a reduced amount of nuclear fallout, since the fireball would initiate well above ground.

It worked like a charm, and was intended to be used in more than one operation. However, in 1958, the US and the USSR agreed to their first nuclear test moratorium which lasted until 1961. Subsequent agreements ended above ground nuclear testing.
by 1963. Six above ground tests were conducted in Area 2 between 1952 and 1957, three were observed with the turret, but it was never used again after Operation Plumbbob.

In April of 2015, Rob Hoffman, an LLNL nuclear physicist, saw the naval gun turret in area 2 for the first time during a Federal Nuclear Expertise tour of the Nevada Test Site. Although the guides explained why the turret was there, how it worked, and where and when the site had obtained it, they could not shed any light on its history, specifically, which ship it had come from. Being from a Navy family, and a WW2 history enthusiast, Hoffman spent the next year researching the mystery of the gun turret in the desert.

What ship is that?

Ten US Navy cruisers carried the Mark 9 turret design. Built between 1926 and 1933, these were the two ships of the Pensacola class (Pensacola and Salt Lake City), the six ships of the Northampton class (Northampton, Chester, Louisville, Houston, Chicago, and Augusta), and the two ships of the Portland class (Portland and Indianapolis). Known as "Treaty" cruisers, they were built under the restrictions of the 1922 Washington Naval Treaty. Limited to 10,000 tons displacement, all were originally designed as light cruisers (CL) due to their fairly weak armor schemes. They were re-classified by the 1930 London Naval Treaty as heavy cruisers (CA) due to their 8” main battery armament.

Eight other "Treaty" heavy cruisers (seven of the New Orleans class and the one-off Wichita) along with eighteen light cruisers and a hand full of destroyers bore the brunt of the surface actions against the battleships, cruisers, and destroyers of...
the Imperial Japanese Navy in the opening stages of the war. Nowhere was this more apparent than in the savage engagements in "Iron Bottom Sound" off the coast of Guadalcanal, where seven of the ten cruisers of interest here saw action.

The battle history of these ships is a tale of great success and sorrow. Of the ten ships that carried the Mark 9 turret, four were lost to enemy action: Houston in the Sunda Strait, the Northampton and Chicago in the Guadalcanal campaign, and the Indianapolis in the Philippine Sea at the very end of the war. All four were sunk by Japanese torpedoes. The only ones to escape torpedo damage were the Augusta, who served in the Atlantic, and the Salt Lake City and Louisville, who were both hit by torpedoes that did not explode.

The Pensacola and Salt Lake City survived the war but were used as test subjects during Operation Crossroads in 1946, the first in a series of nuclear tests conducted in the Pacific. True to their battle-hardened reputations, both cruisers survived the atomic blasts. The ABLE shot was a B-29 airdrop, while the BAKER shot was exploded underwater. In both tests the ships were within 1000 yards of the explosions. They survived the airdrop with only modest topside damage. However, both suffered extensive internal damage from the underwater shot (the Pensacola, being closer, had boilers unshipped from their mounts), and both were severely contaminated by the "base surge": a radioactive tsunami that was 94 feet high at a thousand yards from ground zero. Towed back to the US, they were eventually sunk as target drones in 1948 with all turrets in place.

![Figure 12. Crossroads Baker shot. LLRL photo.](image)

The four remaining cruisers, Chester, Louisville, Augusta, and Portland, were fully functional at war's end. After accepting the surrender of numerous Japanese commands and returning thousands of service men home, in 1946 they were put into fleet reserve at the Philadelphia Navy Yard until they were sold for scrap in 1959, again with all turrets in place. In figure 13 the Augusta, Louisville, and Portland appear in the center foreground to the left of three of the surviving New Orleans class cruisers.
The events described so far present a serious quandary. A Mark 9 turret was installed at the Nevada Test Site in 1957, but the four cruisers it could have been removed from were in fleet reserve on the east coast from 1946 to 1959. Might the gun turret obtained from the Mare Island Shipyard have been a spare? In 1943, after several cruisers had returned from the Solomon's campaign with significant battle damage, MINS did start a crash program to make replacement turrets. Or did the NTS turret have a more interesting history? Might it have been damaged in battle and removed from one of the ten cruisers that mounted it before the end of the war? Every one of these cruisers save the Augusta suffered battle damage during WW2.

Summaries of these engagements and damage are published in a series of War Damage Reports. We will now focus on the only three instances where one of these cruisers sustained damage to a main battery turret and survived to reach a repair yard.

The USS Portland (CA-33) was damaged during the Naval Battle of Guadalcanal in the early morning of November 13, 1942. She was struck by a shallow running torpedo fired by a Japanese destroyer that caused extensive damage to her stern on the starboard side. This hit lifted armor plate from the first platform up through the main deck and into the guns of her #3 main battery turret, locking it in train and elevation.

Figure 14. USS Portland (CA-33) at Tulagi, November 14, 1942. Torpedo damage has jammed #3 main battery turret in train and elevation. Ship's photo # 1920-20.
The torpedo ripped a 45' hole in the side and penetrated 25' into the rear of the ship. Despite having two of her four screws blown off and her rudder jammed, she managed with the assistance of a harbor tug, a cargo lighter, and two PT-boats to crab her way to Tulagi and, after emergency repairs, made her way under reduced power to dry dock in Australia.

![USS Pensacola (CA-24) at Tulagi, December 1, 1942. Torpedo damage at frame 103 has jammed #3 main battery turret in train. Many holes from interior 8" shell explosions are evident. NARA San Fran Gen.](Image)

Figure 16. USS Pensacola (CA-24) at Tulagi, December 1, 1942. Torpedo damage at frame 103 has jammed #3 main battery turret in train. Many holes from interior 8" shell explosions are evident. NARA San Fran Gen.

ruptured causing a fire that burned for 12 hours, engulfing the main mast and #3 turret. Roughly 150 of her 8" main battery rounds "cooked-off" inside #3 barbette, locking her #3 turret in train and rendering #4 turret inoperable. She made her way to Tulagi and eventually to Pearl Harbor on her lone starboard side outboard screw.

![Figure 15. USS Portland. #3 main battery turret, all fixed. Photo courtesy Don Montgomery](Image)

Months later she returned to the west coast for extensive repairs and modification. Accounts from War Damage Report #35, a cruise book dedicated to this ship, and eyewitness testimony from Ted Waller indicate that the turret remained jammed until she arrived at Mare Island. There, all main battery guns were relined, and the turret was re-mounted, not replaced.

The USS Pensacola (CA-24) also sustained damage off the coast of Guadalcanal during the Battle of Tassafaronga on November 30, 1942. She was also hit by a torpedo at frame 103, with the loss of roughly 48 feet of side plating and the rupturing of all decks on her port side. The after engine room and 8" magazines were flooded and several fuel tanks were

![Figure 17. Main battery turret #3 being removed from USS Pensacola. Red arrows show damage to shell and powder handling rooms. National Archives at San Bruno photo #546-43.](Image)

On return to Pearl Harbor turret #3 was removed, but the damage was to its structure below deck, not to the face, sides, or roof. This turret's final disposition is unknown.
Pensacola was also damaged at Iwo Jima on February 17, 1945 where she received six hits from Japanese shore batteries. One hit caused some relatively minor splinter damage to the aft end of main battery turret #2 that was repaired by the ship’s company in theater.

As related in the introduction, the USS Louisville (CA-28) sustained damage from two kamikaze attacks while operating off Luzon in the Philippines on January 5 and 6, 1945. The first was from a D4Y “Judy” dive bomber that impacted on the roof of main battery turret #2. The turret was trained forward and unoccupied at the time of the attack except for two men who were rescued from the gun pit. One man in the 5" director above the bridge was killed in this attack. Many were badly burned, including Captain R.L. Hicks.

The second attack was by a D3A "Val" dive bomber that crashed into the signal bridge on the starboard side and came to rest against the forward stack. Both attacks caused extensive damage, and the latter severe casualties.

At 0345 on Jan. 7, Louisville was ordered to join the escort carriers of Task Unit 77.4.1 operating 50 miles to the west of Lingayen Gulf. Burial services at sea were performed that morning for 36 officers and men. Later that day RADM Chandler and a member of his staff, LCDR D.I. Brown D-V(G), died of their wounds. Both were buried at sea on the 8th and Louisville was ordered home, touching first at Leyte to land her wounded,
then at Pearl Harbor, finally arriving at Mare Island on February 6, 1945.

From the Louisville’s war damage report we will confine ourselves to the damage inflicted on main battery turret #2. Owing to the large number of killed and wounded among the ship’s officers, the Mare Island repair staff developed the report.

Figure 21. Looking aft at bomb damage to main battery turret #2. USS Louisville War Damage Report photo #5, Mare Island Shipyard, Feb. 7, 1945.

The plane struck the turret a glancing blow from about 345 degrees relative bearing to the bow. The bulk of the plane pitched over the starboard side, with the remaining debris hitting the bridge and showering onto the port side of the communications platform at the aft end of turret #2 causing a large fire that was quickly put out. (see Figs. 18 & 21). The MINS staff suggested that a small bomb (~100 lbs.) exploded just above the left gun causing most of the damage, leaving the gun out of alignment and out of battery, jamming the whole turret in train and elevation. The War Damage Report specifically listed twenty-two major items either damaged or destroyed, summarizing with “the damage was so extensive that the entire 8”/55 cal. turret II had to be replaced with a new unit.”

Prominent is the large dent on the port side rooftop plate that extends from the inner edge of the faceplate to the center of the middle gun. Also, the gun-port plate and shield mounted between the roof plate and the three main guns are not visible (both had been blown into the turret by the force of the explosion). Finally, the portside faceplate made of Special Treated Steel (STS) was dismounted. Each of these armor panels is attached to the main side and base plates of the turret with rivets or bolts (most of them secured from the inside) that were sheared away by the force of impact and explosion. The interior of the turret was badly damaged by blast and fire.

The gun turret at the Nevada National Security Site today still bears battle scars from the Kamikaze attack on January 5, 1945.

Figure 22. Mark 9 turret in Area 2 at the NNSS. View is looking west. R. Hoffman I.I.NI. photo.
On the port side of the rooftop, a non-uniform patch that extends from the inner side of the faceplate to the middle gun is welded into the rooftop armor plate. This patch is large enough to encompass the deformed and ruptured area seen in Figures 21 and 24. The shield just below the gun-port plate appears new and was likely replaced when the turret was repaired or reconfigured for the NNSS.

Figure 23. View of a welded patch on the port side of the turret rooftop just aft of the gun port plate. R. Hoffman LLNL photo.

Figure 24. View of bomb damage to the portside rooftop plate and guns of the #2 main battery turret. USS Louisville War Damage Report Photo #6, Mare Island Shipyard, February 7, 1945.

Figure 25. View of turret interior from the gun pointer station. Note rust stain along the top edge at the center of the gun slide. R. Hoffman LLNL photo.

Entering the gun pointer station from the port side hatch one can view the top of the gun slide and the backside of the gun shield. About one third of the way along the gun slide is a long dark rust patch (appearing in the photo just to the right of the shadow cast by the second strut supporting the top of the shield). This stain was caused by water seeping through a crack in the slide that connects two of the four rivet holes on the forward top edge of the slide between the left and center guns (see Fig. 24). Note, this is not the crack in the slide above the left most gun alluded to in the WDR photo. No clear sign of that crack was found on the turret at the NNSS (it may have been repaired or welded together).
From the top of the turret looking down and forward to the lower corner of the port side STS faceplate, this panel is offset from the center baseplate of the turret by half an inch, suggesting an imperfect remounting. Recall this plate was unshipped from the main body of the turret (Fig. 24). The view of the corresponding corner on the starboard side is a perfect fit.

The gun slide, which is made of softer steel than the STS plates attached to it, on close inspection reveals multiple non-uniform indentations suggesting a splash pattern of fragments from the explosion that scarred the upper areas of the slide. These defects are not evident in the shadow of the left most 8" gun barrel. Also, the density of indentations is much more pronounced on the port side of the threaded lift support pylon in between the left and center gun than anywhere else on the slide exterior.

Finally, we have identified one feature on the gun slide that is identical to the photos taken in 1945 and 2015. It is a small elliptical gouge roughly one inch long and a half inch wide at the front of the threaded lift support pylon on
the port side. In the MINS photo the threaded portion has a damaged bolt head screwed into it (see Fig. 24 and upper Fig. 27).

The evidence presented to this point is suggestive, but still circumstantial. However, definitive markings on the turret do exist. Approximately two feet up from the base and midway along the port and starboard side main armor plates, the following hand stamped inscription can be seen:

BP 132347-D
OUTSIDE
PLATE NO 2
ASSEM NO 117

The upper inscription refers to a blueprint for this specific turret. The lower inscription identifies a specific turret assembly constructed at the Naval Gun Factory, Wash. D.C. Identical markings exist on the starboard side (PLATE NO 1).

From the Archives

In the National Archives at San Bruno, California are the surviving records from the Mare Island Shipyard that was decommissioned in 1974. One of us (J. Leslie, USNAVYRESEARCH.COM) has discovered official US Navy documents that prove conclusively which cruiser the turret in the desert was originally installed aboard.

The first document is from the Naval Bureau of Ordinance and is addressed to the commandants of the six shipyards building the Pensacola and Northampton class cruisers. Dated Feb. 15, 1928, it details the delivery schedule of 26 8"/55-cal. twin and triple mount assemblies for light cruisers CL 24-31. For the USS Louisville (CL 28) assembly numbers 115, 116, and 117 were scheduled to be delivered between Sept. 15, 1929 and Feb. 28, 1930.

Figure 28. San Bruno NARA document NP7/S72-5 "8"/55/89) (F7), February 15, 1928.

A discussion of terminology is in order here. Gun assemblies with multiple barrels that have a one-piece gun slide (where the guns are not able to elevate independently) are referred to as "mounts", those that can are referred to as "turrets". We have used the latter as it is more familiar to the
casual reader, and apologize to the aficionados. Back to our story.

This documentation seems conclusive. But plans (in theory) are often modified by events (in practice), and such was the case here.

The final three Northampton class cruisers to be laid down, all in 1928, were the Augusta (July 2), the Louisville (July 4), and the Chicago (September 10). Another important date in a ship’s construction is the day it is launched. For capital ships the main battery is installed after they are launched to avoid having so much topside weight aboard while the ship is going down the launch slip. In this regard the Augusta (February 1, 1930) maintained her 10 week lead on the Chicago (April 10), but the Louisville’s launch date (September 1) slipped by several months, even though she was laid down at the same time as the Augusta. The problem with the delivery schedule made up in 1928 is that the mounts for the Augusta were scheduled to be shipped last, even though she was laid down and launched first. An additional complication was that the Louisville and Chicago were the only two of these eight cruisers that were built on the west coast.

Clearly, the Newport News shipyard was not going to wait months to install the main battery into Augusta based on a priority list drawn up two years earlier. In fact, Louisville’s main battery mounts 1 and 2 were installed on March 3 and 4, a month after the Augusta was launched, and five weeks before the Chicago. How were they installed before she was launched?
This is a carbon copy of the original document S72-5/CL (1151)(R), dated March 22, 1930. From the Bureau of Ordnance to Commandant Mare Island Shipyard: For USS Chicago (CL 29) - one 8" triple mount assembly, #126, its guns, gun breaches, and all parts (in 28 boxes and 10 crates) needed to complete its construction.

For USS Louisville (CL 28) - "One box of parts for 8" triple mount assemblies #118, 117, and 120".

The turret in the desert is assembly #117. Mystery solved.

To honor those who served

World War 2 was without doubt the most eventful episode in the history of the United States Navy. To honor those who served at sea, ships from that era have been painstakingly maintained as museums. In the US, nearly every class of vessel has at least one representative today with one glaring exception: the cruisers. The USS Salem at Quincy Mass. is the only example of an 8" gun heavy cruiser left, but she did not serve in WW2.

Of the "Treaty" cruisers that served in the desperate first years of the war, two significant structural artifacts exist on the east and west coasts. In the city of Portland, Maine, at Fort Allen Park, the main mast of the USS Portland stands as a proud monument to the ship and to the men who served aboard her. For her service in every major engagement in the Pacific Theater of Operations, "Sweet Pea" was awarded 16 Battle Stars.

In the city of San Francisco, at Land's
End, are the bridge wings of the USS San Francisco. She shared a close kinship with the Portland, in that they were the only two heavy cruisers that went up against two Japanese Battle wagons in the desperate Naval Battle of Guadalcanal. Both were severely damaged during that engagement, as the riddled bridge wings at Land’s End attest. For her wartime service, “Frisco Maru” received 17 Battle Stars.

This research has revealed another significant artifact, the long forgotten #2 main battery turret from the USS Louisville. Unfortunately, being situated on a national security site, the gun turret is not available for unfettered public viewing. “Lady Lou” was awarded 13 Battle Stars.

In recognition of her exemplary wartime service, and for her role in the early days of atomic testing, we pay tribute to the USS Louisville, and all who sailed aboard her. She served her country long after her last salvo was fired.

To all who go in harm’s way, and to those who support them, thank you.

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Finally, we acknowledge four WW2 veterans we have had the honor and privilege to correspond with: Ted Waller of the USS Portland, and Mike Marino, Ralph Hopkins, and especially Enrico Trotta of the USS Louisville for their unique perspectives that only someone who was there can provide.

Don’t forget your old shipmates.

Figure 33. USS Louisville firing her main battery at Attu, 1943. Naval History and Heritage Command photo #NH 92328.

Figure 34. USS Louisville crewman 51/c Enrico Trotta, May 10, 1924-Feb. 25, 2017. Fair winds and following seas.
References

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Authors note: We have used names and acronyms for the Nevada Nuclear Security Site and Lawrence Livermore National Lab that were in popular usage at various times during their operation (NTS, LLRL, LLNL).

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