

THE  
BEACON  
ON  
KILL DEVIL HILL

A HISTORICAL NOVEL

By

Thomas J. Morrow

&

James H. Martin

# THE BEACON ON KILL DEVIL HILL

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Oceanside, California

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## ABOUT THE AUTHORS

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Tom Morrow graduated from Arizona State University with a degree in journalism. For the past thirty-nine years, he has worked at a number of daily and weekly newspapers throughout the West, including ten years experience in public relations. He was vice president for communications at the historic Hotel Del Coronado during the 1980s and owned a small advertising and public relations agency in San Diego until 1988 when he returned to newspapers. Since 1991, he has been with the Blade-Citizen, now known as the North County Times in Oceanside, California.

A native of Charlotte, North Carolina, Jim Martin graduated from Hargrave Military Academy in Chatham, Virginia, and Brevard (NC) Junior College. After college, he joined his father in the textile industry for twenty-six years managing it for the last thirteen years when his father retired. With the advent of worldwide outsourcing, the firm was forced to close in late 2001. Deciding to retire early, Jim moved to Rocky Mount, North Carolina where he began pursuing his penchant for writing. His first book was a biography of his father's war experiences in Europe during World War II. After editing Tom's first two books, "Nebraska Doppelganger," and "The Secret at Beckham Manor," Tom invited Jim to coauthor "The Beacon on Kill Devil Hill."

Jim's writing abilities have come to life in the crafting of this story that takes place close to his own backyard—the Outer Banks of North Carolina. It was here during the first seven months of 1942 where German U-boats sank or damaged 285 Allied merchant cargo ships and tankers destined for the shores of Great Britain.

Please enjoy all three books in the Old Warrior Publishing Company's stable of novels.



## ACKNOWLEDGMENT

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The Wright Brothers Monument in Kill Devil Hills, on the Outer Banks of North Carolina, plays an integral part of our story, and the authors would like to thank Darrell M. Collins, the Chief Historian of the Monument, for providing detailed information regarding its structure.

Author Jim Martin would also like to give a special thanks to Darrell for his undivided personal attention and for giving him a private tour of the monument's newly restored interior. At the time of this research, it was not open to the public. It was this tour that provided him with the exquisite details he could use for describing the various story events that unraveled on the inside of this massive structure.

**Jim Martin & Tom Morrow**



## NOTE TO READERS

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The German U-491 submarine used in this story was in fact a real boat where its keel was laid down on 31 July 1943 at the Deutsch Werke Shipyard in Kiel, Germany. Save for the approximately 1,288 submarines manufactured throughout Germany during World War II, 135 U-boats were never finished. The U-491 was one of those boats. On 23 September 1944, with 75 percent of the boat completed, work was cancelled and it was broken up. The authors used this boat because it had no war history.

The fictional mission surrounding this submarine and its crew comes from the creative imagination of the authors. The military freighters and tankers torpedoed by the U-491, which were never actually named, were imaginary ships. Nevertheless, the attacks themselves were loosely based on real events. The figures regarding the total number of submarines and ships sunk during the time frame of our story are factual and in no way include the kills by the U-491.

The actual procedures depicted in this story for operating the U-491 such as submerging, surfacing, releasing a torpedo, and other functions as well as its replenishment of fuel, supplies, and torpedoes were based on factual information researched by the authors.

The repair of the head in the water closet on the U-491 by American civilian Mr. Webber in Chapter 11 is purely fictitious as the real flushing system itself was not designed to be pressurized. The operation of this type of head required its users to maneuver a set of levers and valves in a precise way to properly flush to a gravity-fed system. If not done properly, the contents in the toilet and holding tank could blow back and allow the boat to fill with water. On this particular type boat, the head could not be used when the boat was submerged below seventy feet.

During the early phase of the Battle of the Atlantic on the Eastern Seaboard, it was true that some German submarine commanders would bring aboard Allied individuals, interrogate them, and later release them with alcohol and cigarettes back to their lifeboats after they blew up their ship. In the case of Mr. Webber, he was released back to his rented fishing boat which was left intact.

The mention of all other U-boats, U.S. warships, and merchant ships, and the officers and sailors who were on them, were in fact true to life characters as are their stories. Historical characters mentioned in the upper echelon of the United States Navy, the United States Coast Guard, and the *Kriegsmarine*, the German Navy, were real and well-known figures. All other characters in the story are fictitious and any similarities between actual persons living or dead are purely coincidental.

Throughout the world's navies, all submariners refer to their craft as boats. In keeping with that tradition, the authors will refer to these submarines in that manner. All other military surface craft will be referred to as ships.

In regards to the actual position of the three-sided Fresnel lens located inside the dome atop the Wright Brothers Monument, which flashed the timed beacon light so critical to the plot of this story, the light bulb, lens, and rotating mechanism was designed inside a bracket above ones head making it impossible for an individual to actually move around it. For the sake of this story, it was fictitiously rearranged to make it possible for a person to access it with some ease.

It should also be noted that the original light and rotating mechanism functioned as one meaning that neither could be turned off or on separately. For this story, the authors separated that function.

In as much as the rotation of beacon light itself, the authors, along with Darrell, felt it more prudent to use the current timing of today: six revolutions per minute allowing for eighteen flashes of light. The original rotation was three and one-third revolutions per minute allowing for only ten flashes of light.

While the light remained lit during the war, it was true that the east portion of the dome was blackened out to prevent it flashing towards the Atlantic Ocean. After the war, the blackened out area was removed. The light remained lit well into the late forties when it was eventually turned off because the interior had fallen into disarray. It remained unlit for approximately fifty-years.

When the monument was refurbished and rededicated in May 1998, the beacon light was turned back on and given the present timing of today. Except for another major refurbishing in late 2008 and briefly turned off, it has continued burning ever since at the same new rate.

# THE BEACON ON KILL DEVIL HILL

# CAST OF CHARACTERS

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## THE OUTER BANKS

Roscoe Simmons	Sheriff of Dare County
R.W. Scoggins	Deputy Sheriff
George Washington Dawkins	Deputy Sheriff
Sam Beatty	Deputy Sheriff
Rose Ellen Harris	Secretary to the Sheriff
Josh Scoggins	Son to R.W. Scoggins
Ned Moody	Owner of Ned's Pharmacy
Claire Belle Charboneau	Employee of Ned's Pharmacy
Jenny Smith	Postmistress of Dare County
Hank Larson	Intercity Mail Carrier
Alfred Winters	Caretaker of Wright Brothers Monument
Rags Truscott	Owner of Nags Head Casino
Bessie Potts	Owner of Bessie's Café

## THE BODIE ISLAND COAST GUARD STATION

Lieutenant Mark Fleming	Station Commander
Chief Gunners Mate Jim Bleu	Chief Petty Officer
Chief Boatswain Mate Sam Hatfield	Chief Petty Officer

## THE HAMPTON ROADS AREA OF VIRGINIA

Fritz Lötz (née Arnold von Stapele)	German Mole
Dale Conner	Military Dock Worker
Joy Lund	Secretary Shipping Department

## THE U-491

Kapitänleutnant Hans Vogel	Commander
Oberleutnant Peter Staats	Executive Officer
Obersteuermann Kurt Heinz	Navigator
Leutnant Josef Brückner	Head Radioman
Unteroffiziere Ralf "Viti" Stresemann	Chief of the Boat
Victor Krech	Beacon Code Translator
Jürgen Oehr (née John O'Hearn)	English Translator
Erick Koehler	Injured Sailor

## PROLOGUE

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Growing up on Roanoke Island and the barrier isles of Dare County, North Carolina was idyllic at best, but it was about as close to nowhere as one could get; yet, it was a great place for a kid to grow up.

The barrier islands, which fronted the Atlantic Ocean and stretched almost the entire length of our state, protected the mainland from erosion. They were formed eons ago, and it was probably what caused them to become famous—or infamous—in one way or another. While most of the notoriety happened long before my time, it was what happened in the spring of 1942 that would remain with me for the rest of my life.

Our most recent claim to fame came back in 1903 when the Wright brothers, Orville and Wilbur, ventured from Ohio to our Bodie Island and learned how to fly. Here they discovered the steady winds needed to get their gliders aloft. Later they devised a mechanical plane that forever changed the world. I still get mixed up as to who actually took-off first, but it really didn't matter.

Our oldest claim to fame came back in 1585 when Sir Walter Raleigh landed a small group of men on Roanoke Island. They were the first English settlers ever to do so; but they became disgruntled and returned to England the following year.

However, the real mystery happened two years later when a second group of 117 men and women settlers arrived in 1587. When another ship arrived in 1590 to bring them supplies, they discovered the colonist had strangely disappeared. To this day, nobody knows what happened or where they went. They're now famously known as The Lost Colony.

Our most notorious claim to fame has been the more than 500 ships from all over the world that foundered on the shallow shoals fronting the islands over the last 400 years. From the north of Nags Head to the south of the Core Banks and intertwining with a forsaken patch of land aptly called Cape Lookout, many a ship died an unmerciful death.

But the real Graveyard of the Atlantic has been the dreaded Diamond Shoals jutting from the Cape Hatteras cusp and its largely famous lighthouse. It is this body of water, and its constantly shifting

sands, that has scuttled many a ship when their captains dared its coast in a press for time. It was always a bad decision.

A mile or so to the west of Bodie Island was Roanoke Island. It was surrounded by the sounds of the Albemarle to the north, the Pamlico to the south, the Roanoke to the east, and the Croatan to the west. About three miles further to the west was the mainland and part of Dare County. It was rough territory. To get there you had to take a ferry.

To the north end of Roanoke Island was the small scenic village of Manteo. To the south end was the diversified Wanchese fishing village. That's where I lived with my father, R.W. Scoggins.

Dad was a deputy sheriff as was his friend and fellow deputy, George Washington Dawkins. Along with their boss, Sheriff Roscoe Simmons, they were the essence of law and order on the islands.

Manteo was the county seat and home to Dad's office. Thanks to Wash Baum in 1928, you could get there by car from Bodie Island over the one-mile bridge named for him. Near the middle of the span was a draw allowing for small fishing vessels to pass.

A few years later, the Wright Memorial Bridge opened for automobiles when an influential group of businessmen from Elizabeth City pioneered its construction. It was an eighteen-foot-wide, three-mile wooden structure over the Currituck Sound from Point Harbor in Currituck County to Martins Point in Dare.

The bridge finally allowed us easy access to Elizabeth City and the Hampton Roads area of southeastern Virginia. It was always a treat to go there because the road went right through the Maple and Great Dismal Swamps. A lot of times we'd see alligators sunning themselves by the road. Sometimes Dad would run over a snake slithering across the road.

One of the more popular tourist attractions on Bodie Island was the tall, sixty-one-foot art deco, wing-like granite monument built and dedicated in 1932 to the Wright brothers' flying achievement. It sits atop a ninety-foot bush and grass covered sand dune called Kill Devil Hill and was the highest point for miles all around.

Probably the most treasured establishment on the Outer Banks was the effervescent two-story Nags Head Casino built back in the early 1930s to provide our social entertainment. The bottom floor had duckpin bowling alleys, pool tables, and an entire section of buffalo-nickel pinball machines. By the front entrance was a well-stocked snack bar. During the week, the local folk would sit there and drink a few beers and tell some tall tales. There was usually a lot of belly laughing.

The upper floor contained a huge and highly polished wooden dance floor that was sleek and smooth and slippery. On the one end stood a stage for the Big Bands; on the other end was a long mahogany bar serving the islands favorite beer—Pabst Blue Ribbon. Us young'uns weren't allowed to go up there but sometimes we'd sneak there just the same and watch and listen.

As far away as it may have seemed, the Nags Head Casino was the foremost social center for counties all around. On the weekends, it attracted the kids to boogie to the beat of the bands. Usually dancing in pearly-white sock-feet, most everybody, from time to time, would crash-land on the icy-slick floor.

Rags Truscott was the owner, and he was a man of means with a heart of gold. He hired many of us local kids to set up the duckpins and keep the place swept out. Some of the older kids helped man the snack bar. But for many of my friends, he was their second father as their real fathers were off to war. He always had a soft shoulder to lean on; he never let his buddies down.

Through the years, Dad and Rags became good friends and had developed a mutual understanding on how the orderliness of his business should be handled. With its popularity, fights always broke out when money and anger and alcohol mixed. I don't recollect anybody ever getting killed, but there sure was a lot of bloody noses and knocked out teeth.

If the fight stayed inside, Rags dished out his own judicial justice. If by chance the fight worked its way to the parking lot, or some sandy dune, then Pop brandished his cuffs and hauled their butts to jail. Word quickly spread and, as I recall, that didn't happen very often.

Dad was eminently known far and wide as an honest and decent lawman. With a countywide population of just six thousand and forty-one, he always dispensed his justice in a fair and logical way; and he didn't discriminate. What was fair to the whites was just as fair to the coloreds. Everybody knew it.

And those 500 shipwrecks? Well, they started back in the sixteenth century and have been piling up ever since. Even Blackbeard the Pirate in 1718 scuttled his ship the *Queen Anne's Revenge* in the Beaufort Inlet just below the Shackleford Banks west of the Cape Lookout cusp when he ran it hard aground on a sandbar.

But the ships that began piling up in mid-January 1942 had some help—and it wasn't coming from foul weather, bad karma, or poor seamanship. It was coming from German U-boats. It didn't take us long to

figure out we were under attack. With all the ships sinking right before our eyes, I'll always remember this stretch of water as Torpedo Alley.

To help fight this threat, a large airship base was constructed just south of Elizabeth City in Weeksville. It housed those huge gray blimps that would majestically float high above our coast.

But before that hanger ever got built and the blimps ever got airborne, a group of civilian pilots provided a great deal of support using their own or borrowed aircraft. They called themselves the Civilian Air Patrol and came from all over North Carolina—Asheville, Charlotte, Winston Salem. Their presence really spooked those subs.

The CAP wasn't allowed to carry bombs or anything—just radios. But the Germans didn't know that. When they'd see one of those planes fly overhead, they'd dive to the bottom just as quick as they could. Those planes saved a lot of lives from what I heard.

Now about those German submarines. Well, they came out of nowhere and began sinking everything they could running up and down the coast. And from the looks of it they were pretty well doing a doggone good job of it because almost everyday we would see plumes of black smoke rising from the horizon. That always meant death.

But what we didn't know was that one specially equipped submarine constantly lurked just a few miles off the shore from the small township of Kill Devil Hills. His orders were to receive a coded beacon signal flashed from the Wright Brothers Monument that directed him to highly classified military cargo ships sailing from the Chesapeake Bay to England.

And what else we didn't know, this submarine was tied to a well-placed German mole who had recruited a handful of American collaborators to join him in this plot. And those conspirators? Well, they were our neighbors—well-respected folks living right here on the islands.

Of course, at the time, we didn't know it, but the Wright Brothers Monument played an important role for the Germans in how they disrupted our war effort. This is the story of how my father, George, and Roscoe did their part in fighting the Nazis; although, at the time, they had no idea what they were doing.

**K**apitänleutnant Hans Vogel brought his submarine to the surface and looked for survivors. It was doubtful he would find any. If he did, there wasn't much he could do. His orders were specific—no survivors were allowed to board. But what he could do was guide them to their lifeboats. Beyond that, they were left to fate. And tonight, as with most nights, there would be no fate.

What Vogel could see were hapless men gyrating about as devilish flames engulfed their bodies. What he could hear were voluminous cries for help; but, as the pyre grew larger and hotter, the wailing grew less and less.

Vogel moved his boat closer to the scorching hulk to read her name. But the temperature was too hot and the glow too bright; it was impossible to read. He decided to end her misery. He backed away.

From 400 meters and firing from the bridge, his second torpedo ripped her apart. Amidships the tanker exploded spewing gobs of lava and choking black smoke; its backbone broken, torn asunder, swiftly settling to the depths of the sea.

Within minutes the ship was spent and the sibilant sound of gushing air ceased; nothing was left but swells of flames and badly charred bodies—a gruesome gravesite unlike no other destined to forever disappear.

“Kapitän! It is imperative we leave now if we are to make our rendezvous with the signal!” executive officer Oberleutnant\* Peter Staats said with urgency.

“Ja, Ja. Come about and plot our course. We shall make it in time. I have no doubt. It is so sad to see such innocent sailors meeting this kind of fate. It is a terrible waste, so vain and senseless. But such is war and there is no other. It is likely that we too shall one day meet this abysmal fate. But we must stay the course. It is our duty to the Fatherland.”

Kapitänleutnant Hans Vogel was the lieutenant commander of the U-491 and was considered one of the finest leaders in the submarine fleet. Although diminutive in stature, his thick broad shoulders and steely blue eyes cast a lengthy shadow of authority. To all the crew, he was strong and respected leader focused on his mission—a secret mission like no other.

This was Hans Vogel's first mission to the American coast. He left La Pallice, France on 25 January 1942 and made his way to the North Carolina coast fighting heavy seas all the way. He arrived two hours after sunset on February 14. Illuminating from the shore, he was astonished to see such incredibly bright lights. He knew he could use this to his advantage.

After Vogel left his kill and passed twenty miles due east off the dreaded Diamond Shoals, he took a compass heading of 340 degrees until he reached latitude 36° 01' north fifteen miles from shore. This was the line of sight to the west needed to receive the specially coded beacon signal. He had to be in position by exactly 0215. Once arriving, he was to wait

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\* Senior Lieutenant and First Watch Officer.

no longer than five minutes. If there was no signal, he was to leave and return the following night.

After spending two hours in his less-than-spacious stateroom, Kapitänleutnant Vogel approached his executive officer and asked him to join him on the bridge. Scuttling through the tower hatch, Vogel motioned for the standard four-man watch party to shift to the rear so he and Staats could converse in private. Both officers grabbed their binoculars and began scanning the horizon.

It was now past midnight, February 15, and the beginning of the new moon. With a clear and crispy sky, every star could seemingly be seen. What else they could see were scattered bright lights on the nearby shore. Even though they were few and far between, they knew they were opposite the Outer Banks. It was very desolate.

Kapitänleutnant Vogel already had two previous duties with the U-boat fleet: in the North Atlantic fighting British convoys; and fighting British mine layers in the Skagerrak and the Kattegat off Norway, Sweden, and Denmark. Because of his crafty skill and clever tactics, he was handpicked by his commander, Admiral Karl Dönitz, for this very special mission.

“Do you think we will receive a worthy target, Herr Kaleun?”\*

“I really can’t say, Peter. This whole operation is so new right now. Getting everything in place, picking the right people, coordinating the details. It has all taken so much time, especially the new codes and the training of Victor Krech to decipher them. That, of course, is critical to the mission as well as our operative stationed on the coast. So long as these factors work in our favor, then our job is really quite simple. But, to answer your question, tonight, as you already know, is the first night of the operation. Our operative on shore by now should have had the time to exploit the Americans, to filter in, and build their confidence. I feel a good target tonight, yes.”

“Ja, Kaleun. Perhaps you are right. Fortunately you have chosen a good navigator and helmsman for our mission. Obersteuermann Kurt Heinz will be a very capable guide. He seems to have exceptional senses of these curiously shallow waters. I feel confident you have picked the right man. Do you know who our operative on the coast is?”

“Nein. That person was planted many, many months ago. I understand the SD put him there just before the war started with Poland. But when war broke out with Britain, he devised the plan to stop the special military cargo on this coast before it could reach England. Apparently he has key knowledge of which ships to target.”

Just as Kapitänleutnant Vogel finished his cigarette, the tower hatch opened. It was Obersteuermann Heinz alerting the commander they were within ten minutes of their rendezvous point. Vogel asked Staats to send up the code reader, Victor Krech, with his gear. He wanted him acclimated to the cold weather and be ready to receive the message.

A brief moment later, Krech joined Vogel in the conning tower. “Are you ready son,” Vogel asked in a calming tone.

“Aye, sir. I am ready. I see that it is very dark. This will make for good observation. I should have no problem.”

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\* Kaleun was a warm and affectionate term for the boat’s commander and was often used by both officers and crew to address him in this manner.

“Good. Now strap yourself into your harness and hook onto the rail. We are just now approaching the proper latitude. The west is in that direction.” Vogel pointed his left arm to the port side of the boat.

\* \* \* \* \*

Victor Krech was a trained civilian specialist and put in charge of special communications. His job was vital for the success of the mission. Without his skills, the operation would not succeed.

He was not handpicked by Kapitän Vogel. He was specifically assigned to him from the State Security Service known as the *Sicherheitsdienst* (SD). Through the SD, Krech spent many months in training learning to decipher the coded signal.

In 1938, Krech was studying math at the Berlin University. His outstanding performance was noticed by certain people. After his sophomore year, he was approached by an eerie Gestapo Agent named Conrad Kruger. Because of his exceptional mathematical abilities, he suggested to Krech to consider working for the Nazis. At first, he refused wanting no part of their regime. Unfortunately, that was not the answer the Gestapo wanted to hear. For that reason, the agent put undue pressure on his parents. Fearing for their safety and future well-being, Krech reconsidered his position and joined the regime.

While at the university, Victor enjoyed the company of fellow student Johann Krauss, who was studying to be a doctor. Krauss was also contacted by Agent Kruger about working for the Nazis in the field of linguistics. Johann had excellent knowledge of the English language and could speak it fluently; but there was a reason—he was in fact an American citizen.

He explained to Agent Kruger that he was born in America to German parents who were still currently living there. He therefore had no reason to work for the Nazis. But to Agent Kruger, that made no difference. As far as he was concerned, Johann Krauss was a German. Because of his refusal to join the regime, he was removed from school and forcibly conscripted into the German Army. There appeared no hope for him escaping when war broke out.\*

Kapitänleutnant Vogel had some knowledge of Victor Krech’s past. Knowing he was forced into an undesirable situation, he felt more sympathy than apathy. Nevertheless, Krech was now charged with an important roll and was required to accomplish the mission regardless of the cost.

Only the officers of the U-491 were privy to their top-secret mission. The crew was not. They were only aware of going to the east coast of America and sink cargo ships. But what they did know was that Victor Krech had an important role. What part, they really didn’t know.

\* \* \* \* \*

By 0210 at latitude 36° 01' north, Krech began an early scan of the dark coastline to get the feel of observing on a bobbing boat. He was using the M IV/1T Carl Zeiss 7 x 50 binoculars that he found far superior than the British Barr and Stroud Pattern 1900A

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\* To discover the fate of Johann Krauss, read “Nebraska Doppelganger,” by coauthor Thomas J. Morrow.

binoculars he had used in training. The internal glass surfaces were coated with special protectives reducing reflective losses yet increasing the transmission of light. This lens had an extreme advantage when trying to receive a pale signal some fifteen miles from shore.

Vogel, with the same type glasses, also scanned the horizon. After five minutes, there was nothing but dark sky and empty spaces. With his arms getting tired, Krech lowered his glasses. Vogel continued scanning.

Just as Krech was about to resume, Vogel spotted a series of flashes low on the horizon. He quickly told Krech to look. Vogel, thinking the flashes were part of the code, was told it was only a preliminary signal signifying the code was about to begin.

Five seconds later, a series of flashes, similar to a Morse code, popped across the horizon. Krech was glued to the rail deeply concentrating. Vogel remained still wondering what in the world they meant. In reality, so was Krech. He wouldn't know until he translated its meaning from a specially prepared notebook.

After forty-five seconds, the flashes stopped. Krech told the Kapitän he had sequenced the code. Vogel opened the hatch and he and Krech went below. The four-man watch party returned to the bridge.

Krech promptly scanned his notebook. Within five minutes, he had the message in hand. Before taking it to Vogel, he double-checked his conversion. After verifying the message as correct, he passed them forward. Vogel was standing at the chart table ready to plot their course.

Vogel read the message. The first signal sequence read Quadrant CA, Section 7665—a point outside the southern entrance to the Chesapeake Bay. The second sequence revealed its target: a large military freighter packed with ammunition. Heinz immediately plotted their course.

\* \* \* \* \*

In an effort to thwart Allied military intelligence, and to simplify the complicated and laborious task of plotting latitude and longitude, Admiral Dönitz devised an abridged mathematical grid system to track his submarines as well as the ships of his enemy. This matrix was charted throughout the waters of the world even to where many of his boats would never go. Some grids were irregular by virtue of the shape of the earth and some grids overlapped onto land. This made no difference.

This specialized map, known as Chart 1870G, composed of a grid system equally divided into square quadrants of 486 nautical miles starting in the North Atlantic Ocean just above the Arctic Circle; it traversed to the South Atlantic Ocean just above the Antarctic Circle.

These large quadrants were designated with the first two letters of the alphabet. The first letter of the quadrant designated north to south while the second letter designated west to east.

The quadrant that covered the eastern coast of the United States, from Portsmouth, New Hampshire south to Cape Fear, North Carolina and inland to about the longitude of northeast New Hampshire, was designated Quadrant CA. Again, the submariners dismissed the sections over land. Moving from west to east across the Atlantic, the eastern most section was Quadrant CG where it adjoined the coasts of Spain, Portugal, North Africa, and the Straights of Gibraltar.

To achieve exactness, the quadrant was then divided into nine equal squares each being 162 nautical miles—three squares across and three squares down. They represented numbers eleven through ninety-nine excluding numbers with zeros. The top left square represented numbers eleven to nineteen and the bottom right square represented numbers ninety-one to ninety-nine. These squares represented the first two numbers of the sequence after the quadrant letters.

Following this division, each section was further reduced into another nine squares representing fifty-four nautical miles and numbered one through nine. Again, three across and three below. This was the third number of the sequence.

For the final reduction, and representing the fourth and last number in the sequence, this section again was divided into nine squares and numbered one through nine. This last reduction of squares was only six nautical miles or thirty-six nautical square miles.

\* \* \* \* \*

Vogel asked Heinz when they could expect to reach their destination. “Sir, as long as we are underway by 0230, we should be at the mouth of the Chesapeake Bay by 0610.”

“Good, very good! Our target is a very large military cargo ship leaving Norfolk. Based on our information, we should make contact by 0630. From there, the freighter should make a course adjustment to the northwest. It will be in a group of three ships with our target ship in the middle. We should recognize it as the biggest of the three. They probably will be running without their lights.”

“Sir, do we know what type of cargo it is carrying,” asked Staats.

“Ammunition. We are not to bother ourselves with the other two ships. With sunrise approaching during this time, we must immediately return to deeper waters. We will need to find a nice sandy bottom and settle for the day and rest until dusk. Then we will go back on patrol and check for another signal. I’m sure the American destroyers will be looking for us, and I want to be miles away.”

“Ja Kaleun, a smart move,” Staats reiterated.

“Staats, get us underway! We must run atop and maintain full speed ahead if we are to get there in time. When we get within firing range, we will attack submerged.”

“Aye aye, sir! Helmsman, continue heading 3 - 4 - 0 degrees. Both diesels all head full!”

Running atop at night was a common practice for the submarines. As predators, they had the advantage of darkness and the ability to vanish at a moments notice. It was the perfect choice to create confusion. But the subs weren’t infallible. Even though their speeds on the surface were quick and agile, their ability under water was less than desirable. They were slow and cumbersome and limited to their batteries. If detected by a destroyer, they could be doomed to destruction. But there was a curiosity among the U-boat skippers: why weren’t the American fighting back?

\* \* \* \* \*

The Commander in Chief of American Naval Operations, at this time, was Admiral Harold R. “Betty” Stark. On 6 February 1942, with the East Coast erupting in flames, he appointed Rear Admiral Adolphus “Dolly” Andrews, Commander in Chief of the Coast

Guard, in charge of protecting the East Coast—formally known as the North/South Naval Coastal Frontier and now officially known as the Eastern Sea Frontier.

However, Andrews would report directly to Admiral Ernest J. King, now Commander in Chief of the U.S. Fleet. King had replaced Admiral Husband E. Kimmel, who had been in charge of the U.S. and Pacific Fleet when the Japanese bombed Pearl Harbor. But because of that attack, he was relieved of his command.

Admiral King was a crusty ol' salt who was blunt and rude and often based his judgments on whims. In reporting to Admiral King, Andrews complained his vessels were easily outrun and easily outgunned. To protect the coast, he needed bigger, faster, and more powerful ships. He pleaded for help.

With a massive fleet of unconstrained armaments stored in the Hampton Road harbors after the attack on Pearl Harbor, King was determined to save his ships. For the moment, he didn't know whether to send them to the North Sea and fight the Germans or to the western Pacific and fight the Japanese. No agenda had been set.

In any case, Andrew's request was denied. He was ordered to defend with what he had. At the time, it was a decision of arbitrary means that would cause the deaths of many as the U-boats were free to roam with very little provocation.

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After reaching their destination, Kapitänleutnant Vogel, through the conning tower voice tube, yelled to Chief Stresemann in the control room: "I'm going to pull the plug. Clear the bridge for dive!"

Immediately, and with the utmost of speed, the four-man bridge party shimmied down the ladder into the small confines of the control room.

"Kapitän. Tower hatch secured, bridge watch below!" Staats yelled.

"Chief, take us to periscope depth and trim the boat. E motors half speed. Flood!"

"Aye, Kapitän. Flood negative!" yelled Stresemann. He then rang the dive bell; its shrillness clanged from bow to stern; red lights flashed in every compartment; the crew came alive pulling and pushing valves. Reporting in sequence, the chief smoothly submerged the boat.

Unteroffiziere Ralf "Viti" Stresemann was Chief of the Boat and the leading engineer. He was responsible for the operation of the submarine and commanded the utmost of respect.

"Air vents open – one, two, three, four!"

"Flood valves open!"

"Diesel air valve closed!"

"Diesel engines shut down and disengaged! Fuel levers set to zero!"

"Ready to dive!"

"Electric motors engaged to shafts! Half speed!"

"Ventilators closed!"

The sounds of activity resonated throughout the boat—orders, signals, bells.

Chief Stresemann leaned towards the hydroplane operators: "Forward plane down ten degrees. Aft plane down five degrees."

As the U-491 slowly slid from the surface, the clamor inside the boat came to a halt; it was dead quiet except for the gurgling sounds of bubbling air gushing around the hull and the faintness of humming electrical motors.

The chief, watching the column of mercury in the elevation indicator, monitored the depth of the boat. What he saw was not to his liking—the boat was out of balance.

“Herr Kaleun, we are stern heavy. Our previous launched torpedoes have compromised our balance.”

“Get us level and balanced out, Chief!”

“Aye, sir. Forward plane up five degrees. Aft plane up five degrees. Close flood valves. Close air vents. E motors slow ahead. Rudder amidships. Prepare to trim!” For these short moments, there was a clamor of events.

“Pump four hundred kilograms from aft trim to forward trim!”

Throughout the boat, water could be heard gurgling in the overhead pipes. It wasn’t enough to level her out.

“Pump one hundred kilograms from sea to forward trim.”

The trimming scales slowly moved settling into a static horizontal plane. It leveled on zero.

“Herr Kapitän, boat is trimmed.” Vogel wasn’t pleased.

“Chief, look at you mercury! We are rising.”

The chief looked at his manometer. The captain was right. While the boat was level, it was slowly on the rise. Aside from properly balancing her out, he neglected to adjust the weight. He quickly ordered an adjustment.

“Pump two hundred kilograms of seawater to regulator cells!”

Within minutes, the boat settled at the right periscope depth—thirteen and a half meters. Kapitän Vogel was now ready to find his prey. The leveling and balancing took longer than expected. However, all wasn’t lost; his victim was late.

Knowing his target was large, Vogel commanded Staats to load bow tubes one through four. He believed he would need them all.

Cruising at periscope depth, Vogel entered the small confines of the conning tower just above the control room. Sitting down on a tiny swivel saddle seat, resembling that of a bicycle stool, he peered into his attack periscope. The closer they merged, the more tensions mounted.

“Course steady, 3 - 4 - 0 degrees. Speed five knots,” Staats told Vogel.

When the boat reached its rendezvous point, there were no signs of the ships. What Vogel did see were small insignificant freighters. If he couldn’t find his target, he pondered an alternate ship.

“Staats, time?”

“Kapitän, it is 0645.” There was a moment of silence. Then exuberance.

“There she is! Just where she is supposed to be. Right in the cradle of support!” Vogel ordered a change in course to better his firing position.

The totally undetected periscope slowly sliced through the calm black waters twenty miles east of the Chesapeake Bay. Unknown to the freighter crew, their fate had just been sealed.

Kapitän Vogel continued gazing through his scope. He zeroed in on his target. He ordered his speed reduced to three knots. Staats stood by the electromechanical deflection calculator. It was ready for a solution.

The deflection computer was a high-speed electronic calculator located inside the conning tower. It was designed for deriving a torpedo-controlled solution from the data on their course, speed, and the known speed of their torpedo as well as the speed and direction

of their targeted ship. A computed gyro-angle, which is the angle the directional gyroscopic control of a torpedo is set prior to firing, is electrically transmitted to the torpedo in the tube just before firing.

The angle could be set to zero allowing the torpedo to travel in the same direction as the heading of the submarine; or it could be set at some determined angle to cause it to travel left or right after leaving the submarine tube.

“Staats, compute firing solution from these numbers. Distance 1800 meters, target speed seventeen, angle on the bow green\* twenty-eight, depth three.”

Staats worked the calculator finding the correct values to set the gyro-angle of the torpedoes. Vogel ordered all tubes flooded.

“Kapitän, solution computed! Torpedo room reports tubes one, two, three, and four made ready in all respects.”

“Open tube doors one and two.” Vogel continued adjusting his course and speed for better position. He gave Staats a new set of numbers.

“Correct distance to 1700 meters, angle on the bow green twenty-five, speed sixteen, depth three. Ready tubes one and two for firing.”

“Sir, new solution computed. Torpedo tubes one and two are ready!”

“On my command....”

“Release torpedo one...”

“Release torpedo two!”

With high-pressure water forcibly ejecting the torpedoes from their tubes, the boat trembled with a pneumatic jolt echoing throughout the hull. The submarine briefly rose. Hastily, Chief Stresemann adjusted the ballast and the boat slowly resettled. Death was on its way.

Given the distance and speed of the torpedoes to their mark, the helmsman reported one minute and twenty-six seconds. After one minute, Heinz quietly counted the seconds.

“Five ... ten ... fifteen ... twenty ... twenty-five seconds, Herr Kapitän.” Vogel and Staats looked at each other. Were their torpedoes duds? Did they miscalculate their firing solution?

“Thirty seconds, Herr Kapitän!”

At that moment, a heavily muffled explosion sent vibrations to the boat. Within seconds another sharp explosion was detected. The crew clapped with excitement.

The Kapitän raised the periscope and lowered his eyes to the lens. What he saw were massive flames violently erupting into the sky followed by black charcoal-like smoke aimlessly curling in all directions; ammo deep within the hull was igniting sending wayward bullets and shells streaking through the air. Moments later, and with a thunderous roar, the ship exploded sending hapless sailors engulfed in flames tumbling through the air in haphazard fashion. It was impossible to believe that anybody could have survived this blast. Within minutes, the ship was spent sinking to the bloody depths of a cold dark sea.

“Sir, shall we go find her name?” asked Staats.

“Nein, the ship has sunk. Have Leutnant\* Brückner tune to the six-hundred-meter band and monitor the international traffic. In due time they will report her name as well

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\* Starboard.

as the tanker we sunk. It is best we leave the area. Sunrise is quickly approaching, and we should leave. We will soon have another new target to attack. Our first mission to America has been a grand success. *BdU* will be pleased.”

After the U-boats made a successful kill, they were responsible to report it to the Commander of the Undersea Boats, *Befehlshaber der Unterseeboote*: Admiral Karl Dönitz.

“Exec, take us south to deeper waters and have the chief settle us on a sandy bottom. There has been enough killing for the day.”

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\* Junior Lieutenant.