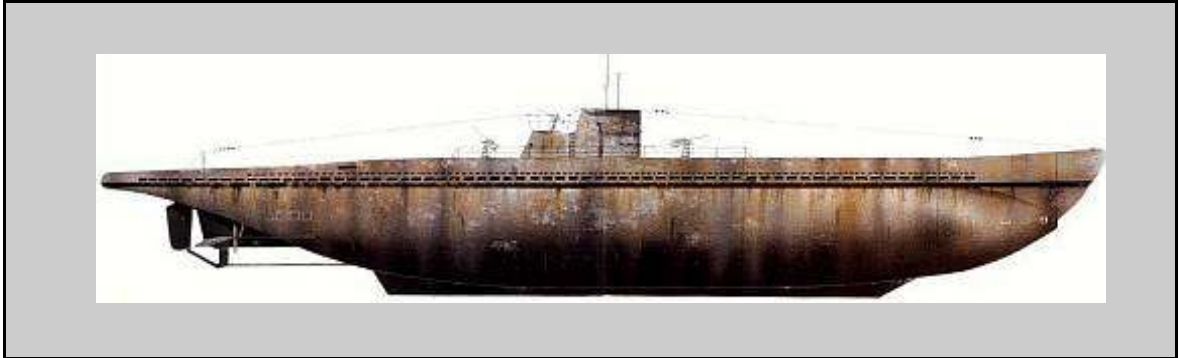


# SLAUGHTERED



## "MILK COWS"

A fantastic Allied intelligence coup quickly sealed the fate of all ten of Hitler's all-important submersible U-tankers

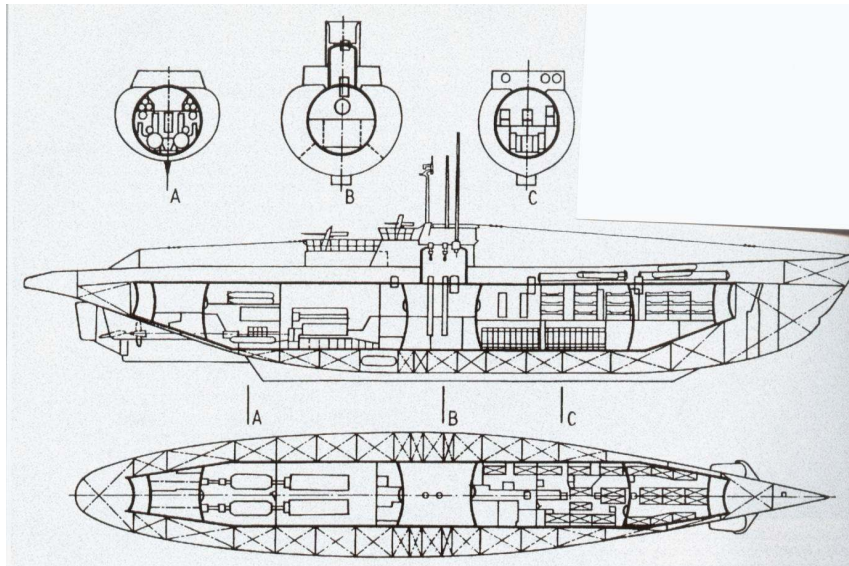
The signal was short and terse. U-66 was dangerously low on fuel and in dire need of a doctor for a seriously injured crewman. Its captain urgently wanted to know if there was a "milk cow" in the area - a supply sub that could render medical aid and provide fuel. The reply from Germany was a somber *nichts*. There had been no word from the milk cow assigned to that area of the mid-Atlantic for some time. Headquarters had to assume the worst. U-488 had disappeared without a trace; overdue and presumed lost. The ninth of ten supply submarines sunk, she had vanished in the North Atlantic while trying to provide vitally needed provisions, fuel and torpedoes to German U-boats in mid-ocean rendezvous.

Unable to secure fuel to carry on its patrol, nor able to help a dying sailor because she carried no doctor. U-66 had no choice but to cease its patrol and return to Germany. With her departure there was one less German U-boat for the Allied sub-hunters to be concerned with; one less torpedo-firing menace able to send an Allies ship to the bottom.

But if the fate of U-488 was an unconfirmed suspicion to the German High Command, its status was no secret to the U.S. Navy's Tenth Fleet, nor the hunter-killer group of destroyer-escorts built around the escort carrier USS *Croatan* (CVE-25). On that balmy 26 April 1944, U-488 met a swift demise.

During the afternoon of the 25<sup>th</sup>, *Croatan* had intercepted U-66's call for a mid-ocean rendezvous with the supply sub U-488. *Croatan's* hunter-killer teams rushed to the intended rendezvous point, but in the swirling mist of sunset her TBM Avengers lost contact with U-66. Hours later, at 0445 on the morning of the 26<sup>th</sup>, USS *Frost* (DE-144) obtained a sonar fix on a larger, fatter target - milk cow U-488. Pressing a depth charge attack with sisters *Snowden* (DE-246) and *Barber* (DE-161), *Frost* soon heard a bellicose underwater explosion at over a hundred fathoms. Not long after, a large oil slick fanned across the restless sea. Never to resurface, U-488

became a tomb for all 64 of her crew, including Captain Oberleutnant Bruno Studt.



The type XIV U-tanker was a highly modified version of the type IXD attack submarine. Built without attack capability its mission was to supply U-boats at sea with fuel, food, torpedoes and medical aid. With its vastly increased stowage capacity the “Milk Cows,” as they were popularly known, carried 636-ton of fuel plus up to twelve torpedoes stowed internally and externally. They featured only defensive armament.

highest priority target in the Atlantic War. The reason was simple. One “Milk Cow” could keep a dozen U-boats at sea for weeks. Refuelled, reprovisioned and re-armed with fresh supplies of torpedoes, the U-boats could press their assault against the lumbering merchantmen with re-invigorated enthusiasm. A menace so deadly deserved to be stalked by every available means, and this is precisely what the Allied hunter-killer groups were created to do - sink Hitler’s U-boats - especially the milk cows that nourished them.

### **PIPELINES AT SEA: AUGMENTING PAUKENSCHLAG**

Germany learned many hard lessons about U-boat warfare in World War One. One of the most important was the need to keep submarines at sea as long as possible to optimise the sinking of Allied ships. Yet the most critical aspect of pressing a U-boat war in the Atlantic was the lack of supply bases either afloat or ashore from which to easily resupply its undersea marauders. The most obvious answer lay in acquiring island bases, however these were non-existent in the stormy North and mid-Atlantic. And the few that did exist in the mid-Atlantic Azores were not under German control. An alternate consideration was the possibility of utilising disguised armed surface raiders which doubles as U-boat supply ships. However, there was an inherent danger in any surface vessel operating alone. If stumbled upon by Allied warships the armed merchantmen’s slow speed offered little hope of survival. No, there had to be another more secure method to refuel U-boats at sea. The answer came in a 1934 design proposal for a modified type IV U-boat that could serve as an undersea tanker. Submitted to Naval planners was a concept wherein a 2500 ton submersible supply tanker would accompany

Unbeknown to Studt’s ill fated crew, or their overlords at BdU (U-boat headquarters in Berlin) they were marked men doomed to die the moment they cast off docklines and headed their overladen tanker for the mid-Atlantic. More than a year earlier the command that gone out from Allied Naval Headquarters in London - “Get the Milk Cows at any cost!” The order came from none other than the prime minister himself - Winston Churchill, fearful that the UK was being seriously imperiled by increasing shipping losses. Such was the U-tankers importance to Hitler’s submarine offensive that their very existence made them the

wolf packs to sea. The proponents stressed a single tanker could carry enough reserve logistics to prolong U-boat's war patrols at least an additional two weeks. Due to the limits of the Anglo-German Naval Treaty the Naval Staff sidelined submarine tanker construction in favour of optimizing its fleet with fully operational coastal and ocean-going boats such as the proven Type II and VII.



Adolf Hitler and Karl Donitz held sharply different views on how the Naval war should have been fought. Had Hitler earlier authorised the build-up of its Ubootwaffe the Atlantic war may have played out far better in Germany's favour.

the boats were to be deep-bellied true U-Tankers rated at 1932 tons, able to carry up to 430 tons of fuel, plus a dozen spare torpedoes, parts, ammunition, and food-stuffs. Most appreciated was the inclusion of a full-blown bakery to produce fresh bread every day: the presence of a medical doctor and facilities to treat injured sailors. An unusual feature was a tiny two-man "brig" to transport U-boat crewmen accused of serious crimes back to Germany for punishment.

Intended as non-combatants, the type XIV tankers carried no torpedo tubes and only two light calibre 37mm and a single 20mm AA gun. Many on-hand components were utilised such as the powerplants from type VIIC boats, anchors, winches, hatches and other time-tested items. The conning tower was almost identical to the type IX. A single 20-ft inflatable work boat was carried to accommodate the transfer of fuel lines, provisions, etc. Assisting in the transfer of boxed goods were light-weight portable cranes rigged to high-line

The subject remained dormant another five years until Adm. Karl Donitz again brought up the matter in a 1939 letter to Naval headquarters proposing construction of three supply boats with 2000 ton displacement. Donitz's argument was convincing. It took a voyage of over two weeks duration just to reach the American coast, the Caribbean nearly a week longer. The type VIIC U-boat carried about 114 tons of diesel fuel, enough for 6500 miles of cruising at an average 12 knots speed. With more than 2500 miles required just to arrive "on station" the amount of fuel left for patrolling was precious little. Donitz emphasised a series of floating fuel depots spaced well beyond the reach of the Allies' limited ASW capability. Such a program could dramatically increase patrol time and spell marked success for offensive operations so far from home. This time - with war against England an inevitability - Donitz's request was given the green light.

Design specifications were drawn up and quickly approved. Designated type XIV,



priority cargo, or people while underway.

In concept the upper decks was designed to be a large clear area upon which it would be easy to handle pelletised bulk stores. The designers took the type IXD boat and essentially made it shorter, wider, and deeper thereby considerably increasing its internal volume. The flat main deck was supposed to provide a suitable work area but in practice proved more of a detriment than an aid to the crew of 48 enlisted men and six officers because it made for a wider target and slower diving. The U-tankers had a range of 9,000 miles at 14 knots on the surface, and 6.2 knots submerged.

An initial order of 24 boats was intended, but only ten were actually completed when it was decided to include German surface raiders in the replenishment program as well. The first type XIV U-tanker was launched in September 1940, and became operational in March 1942. The first six were built by *Deutsche-Werke* at Kiel and the last four by *Germaniawerft*. Of the balance, four were nearly completed when construction was suspended in mid 1944; the others cancelled at that time.

### **WIR GEGEN NACH ENGLAND!**

As originally envisioned, the U-tankers would be spotted at strategic points in the mid-ocean void where Allied warships were least likely to be encountered. It must be remembered that in the early stages of the Atlantic War the Allies had few aircraft able to patrol the so-called mid-Atlantic gap. As a result, it was felt the tankers could operate with relative impunity roughly 300-400 miles off the North American mainland - distant enough from Allied anti-submarine patrols to be free of danger and close enough to the U-boats to provide the logistics they needed.

Though the U-tanker program appeared to have considerable merit it was soon found to be far from flawless. Sea trials quickly revealed their Achilles heel. Ponderous and pregnant as they were with fuel and provisions their great weight and bulk denied them the ability to submerge as quickly as an attack boat. As every submarine skipper knew, being able to “pull the plug” and dive deep in a hurry spelled the difference between survival and destruction. As it was the type XIV’s pressure hulls were built with steel nearly an inch-thick so they could safely dive to depths well over 500 feet; deeper than the type VIIC’s or IX could go. To offset this shortcoming, tactics were devised whereby the “milk cow” would dive first if spotted refueling on the surface, the more agile attack U-boats given the chore of fending off attackers until the tankers found the security of the depths.

Operations at sea also revealed fundamental shortcomings in the U-tankers deck layout. The most serious problem was that the low freeboard made the transfer of bulk supplies extremely hazardous in typical North Atlantic swells which often saw decks continually awash. The result was that the main deck cargo hatches and their davits could not be employed because of the danger of being swamped by heavy seas. As a consequence, supplies had to be torturously hand-lifted through the smaller but dryer conning tower hatches to avoid flooding the boat. Depending on the sea state this tedious operation could take hours to complete, often at great risk to the handlers on deck. More than one milk cow had crewmen washed overboard and drowned.

Once stores were placed on deck, the rubber dinghy was most often used to effect delivery. Another means of delivery pioneered coincidentally at the same time by the U.S. Navy in the distant Pacific was the use of cargo nets and travellers rigged to transfer supplies between boats. In any case, Sea-state 4 was the upper limit cargo transfers could be effected.

Equally difficult and cumbersome was the refuelling operation. This consisted of the U-tanker taking the receiving boat in tow and then floating the fueling line and telephone cable in place. Once the piping connections were made the two U-boats would cruise together at 3 - 4 knots while the required fuel was transferred. Refuelling duration depended on how much fuel was involved and could take up to five hours to totally “top-off” a boats bunkers.



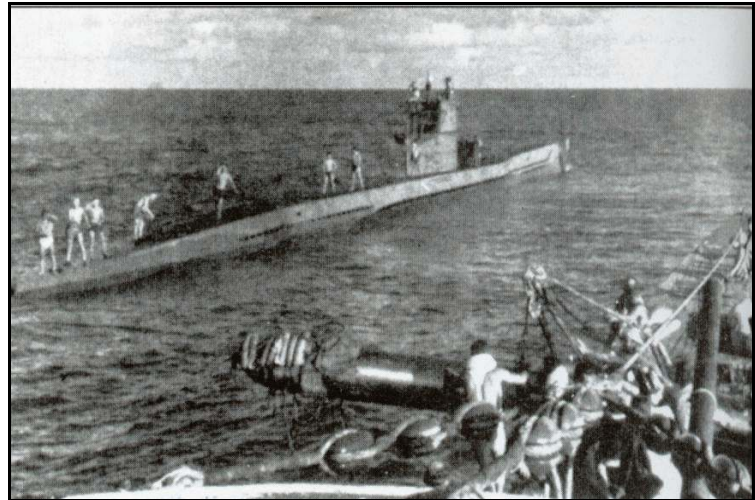
German sailors ferry a torpedo from the mother sub via floats. In heavy weather this was a gruelling task.

Perhaps the most dangerous phase of the resupply effort was transferring the one-ton torpedoes from the mother sub. Manhandling these monstrous “fish” in heavy seas required brute strength and no small amount of skill on the part of the handlers. Crushed limbs and broken bones were common place; the U-tanker’s doctor having no shortage of patients. In anything but calm seas, flotation collars were fitted to the torpedoes which were then floated to the receiving U-boat and hauled aboard via the usual torpedo loading apparatus.

Radioman Klaus Kleinsheid still recalls his days aboard U-462, one of the first six U-tankers to see action. Now a retired electronics engineer living in Portugal, Kleinsheid admits to not spending much time reflecting on wartime experiences. His boat was captured and its crew made POWs after they were attacked and seriously damaged by depth charges dropped from an U.S. AAF B-24 Liberator.

“We were a homogeneous lot of high-spirited youngsters for the most part,” says Kleinsheid, 84 and still remarkably spry. “Though few were Nazi party members we were nevertheless instilled with strong nationalistic spirit for the German cause, especially the honour and traditions of the German Navy. Those of us assigned “milk cow” duty were proud of our support function even if we weren’t actually firing the torpedoes. My boat make five patrols, each usually lasting three to five weeks, about the same duration as the attack boats.”

“Like anyone in the submarine service, our days were dreary and tedious; long hours of sheer boredom interspersed by seconds of sheer panic confined as we were to our iron tubes when submerged. The stench of so much unwashed humanity was awful; everything was so crowded it was difficult to move comfortably. But we were young and pliable. We laughed and



An unidentified “milk cow” prepares to transfer a torpedo to a waiting U-boat.

joked a lot trying to make the most of our rôle in the war.

“Our greatest relaxation came when the skipper allowed me to pipe American jazz music stations through the boat just before lights out. We loved Glenn Miller, who was often more popular than our own performers. American jazz was *verboten* by Berlin, but our skipper allowed it anyway. I think he liked it as much as the crew.

“No we never had any inkling the Allies had broken our codes and knew where we were every second. U-462 survived several attacks and always made it back safely even though seriously damaged. She was considered a ‘lucky boat’ when I reported aboard fresh out of radio school. But our luck soon ran out. After two patrols I spent the war behind barbed wired picking potatoes in Iowa.”

### **SITTING DUCKS: ENTER ENIGMA**

When first deployed in the Spring of 1942 the U-tankers - despite the various difficulties encountered in off loading supplies - enjoyed a high degree of success. The first group of “milk cows” to go to sea were comprised of six boats: U-459 through U-464. Of these, U-459 sailed in March 1942. In all she supported 72 U-boats during her productive six patrol career. U-460 sailed on six patrols that saw her successfully support 86 U-boats. Next, U-462 sustained 64 U-boats on five patrols starting in July 1942. Then U-463 embarked on five patrols that aided 74 U-boats from July 1942 onward. While it is difficult to specifically assess the U-tanker’s contribution to the record Allied tonnage lost in the “Happy Days” of the Atlantic War, the fact remains that the extended patrol durations they made possible obviously allowed each replenished U-boat to be twice as effective.

But despite their dogged determination to back up the U-boat wolf packs it was the “milk cows” reliance on high-frequency long-range radio communications which ultimately spelled their undoing. To effect a rendezvous at a pre-arranged spot on the ocean it was necessary for the tankers to communicate with the U-boats. Unbeknown to the German High Command the Allies had early on broken the German Navy’s top secret “Ultra” code with the fortuitous capture of the “Enigma” decoding machine. But being aware of the position of virtually every U-boat at sea was one thing; being able to effectively attack and destroy them was quite another matter. It was only after the Allies had built up their anti-submarine warfare (ASW) forces to the point that they had the capability to retaliate against the U-boat onslaught that this vital intelligence mattered. This retaliation began late in 1942 as Allied convoys became better protected by newly commissioned Naval escorts and gradually grew in sophistication as roving hunter-killer teams of ASW surface ships and escort carrier aircraft combined with long range patrol bombers to effectively eliminate the mid-ocean “gap” that had long been the “milk cows” sacred lair. Once this means of swift interception became possible the ponderously sluggish slow diving “milk cows” became sitting ducks ripe for slaughter.

The slaughter wasn’t long in coming.

After months of successful operations with relatively little interference by Allied sub-hunters the U-tankers began to disappear with startling regularity. May to early October 1943 saw seven U-tankers sunk by Allied hunters. Once the highly hailed cows that vastly helped increase the toll of Allied losses, they quickly became almost a vanished species. Within five month’s time Hitler’s vaunted “milk cows” had been dealt a stunning blow from which they would never recover.

## LIKE LAMBS LED TO THE SLAUGHTER

The first of the type to be lost - U-464 - was more a matter of being caught in the wrong place at the wrong time than superior ASW sleuthing by the Royal Navy. A brand new type XIV boat outbound on her first mission U-464 was southeast of Iceland on 30 August 1942, when she accidentally strayed within the patrol parameters of Convoy SN73. Running on the surface in a choppy sea, the tanker was surprised by a low flying PBV Catalina from VP-73 which wasted no time unleashing five 350-lb depth charges on the mortified Germans. Two of the charges caused sufficient damage to render the boat incapable of diving. Realising it wouldn't be long until surface warships arrived on the scene U-464's skipper, *Kapitanleutnant* Otto Harms, ordered the U-tanker scuttled; the men into rubber boats. As the damaged "milk cow" slipped beneath the surface the German sailors began paddling toward an Icelandic trawler attempting to rescue them. Intending to board and capture the trawler and take it back to Germany, Harms' plot ran awry when the British destroyers HMS *Newark* and *Castleton* intervened and captured the still startled Germans.

Aside from the sinking of U-464, the U-tankers enjoyed nearly nine months of relatively loss-free operations when the strengthening web of Allied air patrols snared its next victim, U-463. Commanded by *Korvettenkapitan* Heinz Wolfbauer, U-463 had successfully completed four resupply missions without undo hazard. Her fifth patrol would be her last when she was caught running on the surface on 15 May 1943, in the Western Approaches, about five miles off the Scilly Isles. A four-engined Halifax bomber of RAF No. 58 Squadron attacked with depth charges that blanketed the unwary tanker. In seconds the 2400 ton submarine disappeared in a sea of foaming spume sending all 56 crew members and Wolfbauer to the bottom. The tide was beginning to turn, the toll began to mount.



Half sunk by a patrol bomber's depth charges, U-tanker U-459 is abandoned by her crew. Her captain a veteran of WWI, elected to go down with his boat.

July saw four of the prized milk cows sent to watery graves in rapid succession. Highlighting their loss was the fact that all were sunk in mid-Atlantic waters that had previously been the U-boater's sanctuary. The first to go down was U-487 lost south of the Azores on 13 July when attacked by TBMs and F4Fs of the escort carrier Core (CVE13). There were no survivors. Next was U-459, sunk 24 July northwest of Cape Ortegal in the Atlantic by an RAF Wellington bomber while riding on the surface. A week later - 30 July 1943 - the same area saw a double loss when tankers U-461 and sister-ship U-462 were surprised while side-by-side

replenishing U-504. Undergoing a concentrated attack by no less than five Allied patrol bombs - RAF Sunderland seaplane, a PBY, two Halifaxes and an American B-24 Liberator, the surface warships of the Royal Navy's Second Support group were quickly summoned to the scene. One of the most spectacular surface battles ever fought by U-boats ensued with all three quickly sunk by the unrelenting fury of the planes and ships. Of the two tanker's crews, 57 Germans died and 69 survived. There were no survivors from attack boat U-504.

The month of August began just as lethally with U-489 being attacked by a sharp-eyed RAF Sunderland some 200 miles southwest of Iceland on the 4<sup>th</sup>. On her very first patrol, the tanker's gunners put up so much flak they shot out two of the flying boat's engines, causing it to crash-land on the sea. But before it ditched the Sunderland salvoed the last of its depth charges, mortally wounding the virgin "milk cow." With three men dead, the Germans took to their rafts and four minutes later U-489 upended and made its last dive. *Oberleutnant zur see* Adalbert Schmandt survived and , along with 53 of his crew became a POW.

The stark transition from joyous victory to shattering defeat climaxed exactly two months later on 4 October 1943, in a spectacular "mini-*anschluss*" that saw champion "milk cow" U-460 - which boasted having supplied a record 86 U-boats on six patrols - sent to her grave with all hands. Spotted by a low-flying TBM of VC-9 piloted by Lt. (j.g.) Robert. L. Stearns, USNR from the USS Card (CVE-11) some 250 miles north of the Azores, U-460 was in the midst of fuelling three U-boats. Knowing the critical importance of the U-tanker Stearns went after her first, dropping a 500-lb bomb that just missed being a direct hit. Zooming up for another pass as he called for reinforcements, Stearn's TBM was defiantly pummelled by flak from three boats. Banking steeply, Stearns saw U-455 dive as three other TBM Avengers arrived on the scene with guns blazing and bomb bay doors open. Criss-crossing the U-boats, Stearns lost sight of the "milk Cow" he was determined to sink and instead attacked U264 which was also diving to escape the torrent of tracers raking its conning tower. As U-264 went under, Stearns again spied U-460 not realizing she was obviously damaged by his first near-miss. Releasing his "Fido" acoustic torpedo the spunky young flyer was rewarded with a telling shock wave followed by the sight of a massive eruption of debris observed by his radioman-gunner. *Kapitanleutnant* Heinrich Schnoor and his crew became 63 additional names on the fast growing roll of those who would remain on eternal patrol.

## **ARMAGEDDON: AND THEN THERE WERE NONE**

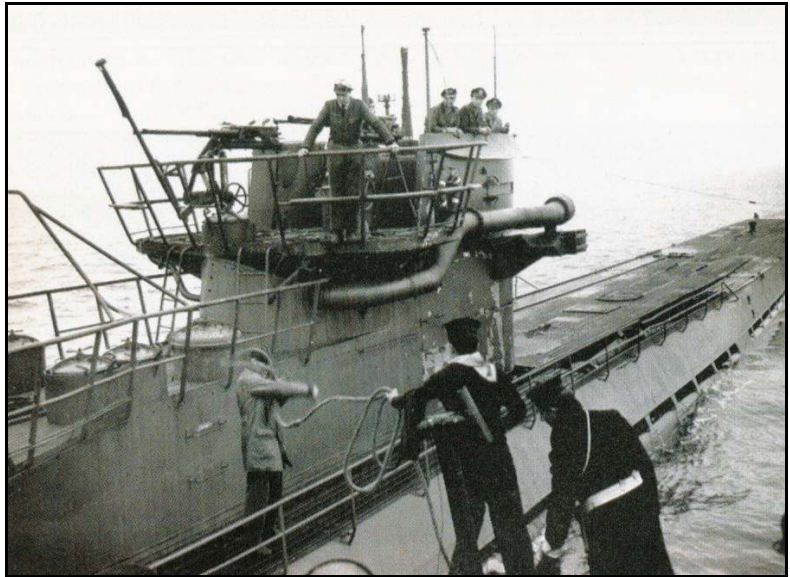
Donitz and his staff were stunned by the dramatic sudden rise in U-boat losses of all types; losses so severe it marked the turning point in the Battle of the Atlantic. Though his planners could only speculate on the vastly accelerated strength and accuracy of the hunters who stalked his marauders Donitz had no recourse, but to pull back from offensive operations in the Caribbean and along America's Eastern seaboard and concentrate his remaining resources on convoys plying the North Atlantic. Realising the unavoidable vulnerability of the U-tankers in this new phase of the Atlantic War Donitz ordered all work suspended on those still under construction.

This same drastic change in tactics saw Donitz commit the last surviving U-tanker - U-490 - to distant operations in the Indian Ocean. Dubbed "Operation Monsoon" a number of new long range type IXC U-boats were sent to a base at Penang, Sumatra. With a built-in capacity of 208 tons of diesel fuel, these 1120 ton boats boasted a range of 23,000 miles. Established by the Japanese as a terminal from which to both attack Allied shipping and transport vital commodities



by U-boats and surface raiders, Penang became a vital, if short-lived, link between Germany and Japan.

A freshly commissioned boat, U-490 was fitted with newly devised underwater refueling gear especially designed for “schnorchel”-equipped U-boats. On her first mission, U-490 was outward bound northwest of the Azores on 10 June 1944, when a weather report she had just sent to BdU in Germany was intercepted by Task Group 22.5, a roving hunter-killer team of five destroyers-escorts led by the escort carrier USS *Croatan* (CVE-25). Putting on flank speed, the Des plotted the U-tanker’s position and arrived in its area early on the morning of the 11<sup>th</sup>. Fanning out with echo rangers pinging, they soon established sonar contact. Closing in on the evasive target the Des made several concerted



U-889 surrendered to the Canadian Navy at Halifax after Germany surrendered in 1945. Equipped with the new “Schnorchel” which allowed it to recharge its batteries without having to resurface, U-889 was one of the newer type IXC long-range boats which with their 23,000-mile cruising endurance did not require the assistance of U-tankers.

depth charge and hedgehog attacks which drove the “milk cow” down to a depth of 1000 ft. With that the attack became a waiting game with hunter and hunted each doing its best to elude and outsmart the other. But after long hours on the bottom, the intense pressure began to have its effect on U-490’s damage weakened hull. Flooding intensified as seams cracked, compressed frames groaned and pipes threatened to burst. Aware they would soon be crushed at that depth *Oberleutnant* Wilhelm Gerlach advised his men they had no alternative but to give up. At 21:47 U-490 surfaced and immediately found herself under a withering hail of 3-in and 40mm shell fire that killed one and wounded four others. Showing the white flag of surrender, her crew soon appeared on deck; their war over as the riddled boat gradually slipped away beneath them. With the exception of the one lost crewman all 53 men survived, including skipper Gerlach. Rescued by the DEs, Gerlach only comment was that he regretted never having been able to test his experimental underwater refuelling apparatus in action.

### **“THERE ARE NO FLOWERS ON A SAILOR’S GRAVE”**

So ended the exploits of Hitler’s prized “milk cows” - a secret weapon that was more the hapless victim of Allied code breaking and sonar ranging skills than tactical ineptitude. Out of the estimated 560 officers and men who served these unique supply vessels, 316 went down with their boats never knowing the true circumstances of their sacrifice. Perhaps it is just as well that this remains the case, for they died nobly in the service of their country, performing a duty to which

they had sworn and dedicated their lives. This makes them every bit the same heroes as those who fought their attack U-boats to a similar inevitable end. Germany lost 784 U-boats sunk or destroyed in WW II. In them 27,491 submariners gave their lives. No other service suffered as high a casualty rate as the men of the *Ubotwaffe*. The names of each are posted on the U-boat memorial at Kiel.

Article transcribed by 'Bud Shortridge of <http://www.angelfire.com/in/shiphistory/> '

