

H-Gram 059: Operation Desert Storm in February/March 1991; 50th Anniversary of the Vietnam War

5 February 2021

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This H-Gram continues the story of the U.S. Navy in Desert Storm in February 1991 and discusses the war in Vietnam from the Son Tay POW camp rescue attempt in November 1970 to the end of 1971.

30th Anniversary of Desert Storm: February/March 1991

For U.S. Navy operations during Desert Shield (August 1990–January 1991) please see H-grams 052, 053, 054, 055, 056, and 058.

Desert Storm commenced in the pre-dawn hours of 17 January (Gulf time) with massive Coalition airstrikes, led by U.S. Navy Tomahawk land-attack cruise missiles. Relentless strikes continued in the days afterwards, focused on Iraqi “strategic” targets in priorities determined by the Joint Force Air Component Commander (JFACC). Numerous tactical threat targets (e.g., Mirage F-1s with Exocet missiles, OSA and captured Kuwaiti missile



The battleship USS *Wisconsin* (BB-64) fires a round from one of the Mark 7 16-inch/50-caliber guns in its No. 3 turret during Operation Desert Storm. (National Archives Identifier: 6480274)

boats, Silkworm coastal defense missile launchers, etc.), many of them fleeting, were not put on the target list by the JFACC and were therefore not struck during this period, increasing the threat to U.S. Navy ships and forcing the Navy to hold back aircraft for fleet defense that could have been put to better use bombing Iraqi targets. Numerous Navy sorties were wasted trying to find Iraqi mobile ballistic missile launchers in the western Iraq desert; although the wildly inaccurate “Scuds” had very limited military impact, the political impact was substantial as Iraq kept firing missiles at Israel, Saudi Arabia, and a couple at Qatar/Bahrain/UAE. U.S. Navy surface ships conducted audacious operations in the northern Gulf, capturing two Kuwaiti islands from their Iraqi garrisons, but were unaware of the true extent of

Iraqi minelaying activity (over 1,200 mines) and only by good fortune didn't hit any, so far. The Iraqi mines put at substantial risk even the amphibious deception plan intended to pin down Iraqi ground divisions on the coast so that the Marines assigned to Marine Forces Central Command (MARCENT) could conduct their attack into southern Kuwait when the Coalition ground offensive commenced. Had the amphibious assault plan actually been executed, Coalitions losses, and especially U.S. Navy losses, would have been significantly higher. (See H-Gram 058 for more on Desert Storm in January 1991.)

After the Iraqi air force fled to Iran (mostly successfully) and the Iraqi navy tried to do the same (mostly unsuccessfully), Vice Admiral Stanley R. Arthur (COMUSNAVCENT) ordered four carriers into the northern Arabian Gulf, which by the arrival of America (CV-66) from the Red Sea on 14 February dramatically increased bomb tonnage per sortie, and doubled sorties per day per carrier, greatly increasing the effectiveness of USN air strikes on Republican Guard and regular Iraqi army units occupying Kuwait. (In the last week before the ground campaign, USN aircraft were dropping more tons of bombs on Iraqi troops and armored vehicles in the "kill-boxes" than the B-52s). This contributed substantially to the destruction and demoralization of these Iraqi ground forces in advance of the Coalition ground campaign, anticipated for late February.

On 2 February 1991, another USN A-6 was lost, this one from VA-36 off Theodore Roosevelt (CVN-71), overwater south of Faylaka Island, by AAA or shoulder-launched SAM from the island or Iraqi speedboats. The two men aboard, LCDR Barry Cooke and LT Patrick Connor, were killed.

On 3 February, battleship Missouri (BB-63) opened fire with her 16-inch guns for the first time since the Korean War, with eight shells targeted on Iraqi bunkers in southern Kuwait. In addition, a mine (or more likely a stray HARM) exploded near

destroyer Nicholas (FFG-47) causing light damage by shrapnel.

On 5 February, an Air Wing EIGHT (CVW-8) F/A-18, flown by LT Robert Dwyer, was returning to Theodore Roosevelt (CVN-71) from a strike mission over Iraq when his plane disappeared over the North Arabian Gulf. Neither plane nor pilot was ever found.

On 6 February, battleship Missouri opened up again with 112 16-inch and 12 5-inch rounds in eight fire support missions in the next 48 hours hitting Iraqi targets in southern Kuwait. Within two hours of relieving Missouri, battleship Wisconsin (BB-64) let loose with 11 16-inch rounds against an Iraqi artillery battery in southern Kuwait.

On 7 February two F-14s of Fighter Squadron VF-1 off Ranger (CV-61) received a vector from an E-3A AWACS to a low altitude contact and the lead F-14 shot down an Iraqi Mi-8 helicopter with an AIM-9M sidewinder missile, the first USN air-to-air kill since the first days of the war. The same day, Wisconsin used her Pioneer Remotely Piloted Vehicle (RPV) to target Iraqi artillery and communication sites in southern Kuwait.

On 13 February, carrier America transited the Strait of Hormuz, joining Midway (CV-41), Ranger, and Theodore Roosevelt in the North Arabian Gulf targeting Iraqi ground forces in Kuwait in preparation for the Coalition ground offensive. The same day USN aircraft destroyed an Iraqi Super Frelon (Exocet-capable) on the ground in southern Iraq.

On 18 February, U.S. Navy and Coalition units commenced an approach toward the Kuwaiti coast in preparation for executing an amphibious feint in support of the amphibious deception plan. The flagship of the minesweeping force was Tripoli (LPH-10), with six MH-53 minesweeping helicopters embarked. Unknowingly, Tripoli was steaming in a minefield all night. At 0436, Tripoli struck a moored contact mine in the outer Iraqi

minefield, which was further from the coast than anticipated. The mine blew a large hole near the bow; fortunately fuel and paint fumes that filled forward compartments did not explode, otherwise the damage might have been catastrophic. Fortunately, no one was killed and Tripoli continued operations, although it became apparent the damage was more severe than initially thought, and in a few days Lasalle (AGF-3), commanded by future four-star John Nathman, would take over duties leading the minesweeping force. Chief Damage Controlman Joseph A. Carter and Chief Warrant Officer Van Cavin were each awarded a Silver Star for their actions in the immediate aftermath of the mine strike on Tripoli.

At 0716 18 February, the AEGIS cruiser Princeton (CG-59) was maneuvering into position to provide air defense coverage (having already passed through the outer moored contact minefield without detecting or hitting one) for the minesweeping force when she triggered an Italian-made Manta bottom-influence mine under her stern, which in turn triggered the sympathetic detonation of another Manta about 350-yards away. That no one was killed and casualties were comparatively light belied the severity of damage to the ship. Had the Manta detonated directly under the ship, as it was designed, the damage likely would have been fatal with very high casualties. A higher sea state might also have caused loss of the ship, which had to be towed away for repair. (Of note, CNO Michael Gilday was in the crew of Princeton).

On 20 February, AEGIS cruiser Valley Forge (CG-52) vectored an Anti-submarine Squadron VS-32 S-3 Viking aircraft onto an Iraqi gunboat, which the S-3 destroyed with a 500-pound bomb; the first combat kill by an S-3.

By 22 February, it became apparent that Iraqi forces in Kuwait were conducting massive sabotage of Kuwait's oil infrastructure with well over 100 oil wells being set on fire, covering southern Kuwait in a pall of dense oil-fire smoke. It

also became apparent that Saddam Hussein was withdrawing some of his troops and claiming a great victory before the Coalition ground campaign even started. By this time it was estimated that the Iraqis had already lost 1,685 tanks, 925 armored personal carriers, and 1,450 artillery pieces to Coalition air strikes. By 23 February, over 200 Kuwaiti oil wells were on fire. The same day Missouri bombarded Iraqi targets on Faylaka Island (a Kuwaiti Island northeast of Kuwait City).

At 0400 24 February, MARCENT Marines (elements of 1st and 2nd Marine Divisions), under Lieutenant General Walt Boomer, USMC, commenced an assault into southern Kuwait, into the strongest Iraqi defenses. Intended as a "supporting" attack, the purpose of the Marine attack was to fix Iraqi units in place so that the U.S. Army could advance unimpeded around the Iraqi right flank west of Kuwait, around the extensive Iraqi fortifications, and hit the Iraqis from the west and cut off their retreat to the north. This was described by the Commander, U.S. Central Command, General Norman Schwarzkopf, as the famous "Hail Mary" maneuver. Instead, partly due to superior Intelligence on the precise locations of Iraqi defenses, but more to superb combat engineering and vastly superior fire and maneuver tactics, the Marines blew through the vaunted Iraqi defenses with surprisingly few casualties. Some Iraqis put up stiff but ineffective resistance, while many others quickly surrendered. The Marines advanced so far so fast that General Schwarzkopf ordered the U.S. Army to advance their timetable otherwise the Marines were going to be in Kuwait City before the Army even crossed the line of departure. The Marine advance was conducted under the hellish conditions of over 500 burning oil wells, but aided by shelling from battleships Missouri and Wisconsin.

On the morning of 25 February, NAVCENT forces were conducting a vastly scaled back amphibious feint on the coast of Kuwait, with Missouri conducting fire-support operations (133 16-inch

rounds) in a small swept area (because that was all that could be swept in the time available) only a few miles off the coast when a previously hidden Iraqi Silkworm anti-ship missile battery fired two Silkworms at Missouri. One Silkworm fell short in the water. The second missed Missouri (or was possibly deflected by jamming or chaff) before it was shot down by a Sea Dart surface-to-air missile from British destroyer HMS Gloucester, after it passed CPA (closest point of approach) to Missouri. By the end of the war Missouri and Wisconsin had fired over 1,000 16-inch rounds.

Also on 25 February, one of the over 70 "Scud" ballistic missiles fired by Iraq finally hit a military target, killing 27 U.S. Army personnel and wounding more than 100 when it fell on a barracks in Dhahran, Saudi Arabia, the most Coalition casualties in a single incident in the war.

On 26 February, U.S. Navy jets and other coalition aircraft bombed retreating Iraqi troops on the road from Kuwait City north to Iraq. Blasted vehicles blocked both ends of the road, resulting in a huge traffic jam of hundreds of trapped vehicles and thousands of troops that quickly turned into a slaughter. The carnage was so massive that there was risk of breaking the fragile Coalition if other Arab member nations perceived it as a gratuitous massacre of helpless brother Arabs. As it was, it quickly became known as the "Highway of Death." Some of the better Iraqi Republican Guard forces managed to escape the massive U.S. Army armored assault closing in from the west at breakneck speed (those few Iraqi units that resisted were steamrollered) so what was trapped in Kuwait were mostly hapless Iraqi conscripts.

The "Highway of Death" was a significant factor in Chairman of the Joint Chiefs of Staff General Colin Powell's recommendation to end of the Coalition offensive and to declare victory after 100 hours. At 2100 EST 27 February 1991 (0500 28 February Gulf time) President Bush announced that Kuwait was liberated and Coalition offensive operations ceased.

During Desert Storm, the six U.S. aircraft carriers launched 18,117 fixed-wing sorties of which 16,899 were combat or direct support sorties, of about 94,000 total U.S. and Coalition fixed-wing combat sorties. The Navy lost seven aircraft in combat (two F/A-18, four A-6E, one F-14) and four to accidents (F/A-18, A-6E, SH-60, H-46). The Navy lost six men killed in action (all aviators) and eight personnel killed in non-combat accidents. Three U.S. Navy Prisoners of War were turned over by the Iraqis on 4 March. Maritime Interception Operations continued and by the end of February reached 7,500 intercepts, 940 boardings, and 47 diversions.

Overall Coalition aircraft losses were 75 aircraft (including helicopters). Of those losses, 65 were U.S. aircraft, of which 28 U.S. fixed wing aircraft were lost in combat. Overall U.S. deaths in Desert Storm were 148 killed in action and another 145 non-battle deaths plus 467 wounded in action. Most estimates of Iraqi deaths are between 25,000 and 50,000 although some are as high as 100,000. Over 71,000 Iraqis surrendered. Over 100,000 Iraqis apparently deserted prior to or during the Coalition Ground Offensive. Nevertheless, to the great consternation of everyone, when it was all over, Saddam Hussein was claiming Iraq won a great victory.

For more on Desert Storm (Part 2) Please see attachment H-059-1. (The Great Scud Hunt, Mine Warfare, Over the Top, Silkworm Shot, The Highway of Death, Vision of Hell.)

The next H-Gram will contain Desert Storm statistics as well as discussion of the role of Sealift, Seabees, and Navy Medical personnel in Desert Storm.



The Sealords Operational Theatre, from By Sea, Air, and Land, by Edward J. Marolda.

50th Anniversary of the Vietnam War

(Of note, National Vietnam War Veteran's Day is observed annually on 29 March.)

U.S. Navy Operations in the Vietnam War from November 1970 to December 1971.

The largest night carrier operation of the Vietnam War occurred 20-21 November 1970 when carriers Ranger (CVA-61) and Oriskany (CVA-34) launched over 50 aircraft over North Vietnam and along the coast in order to provide a diversion for the daring U.S. Army/U.S. Air Force attempt to rescue U.S. Prisoners of War from the Son Tay POW Camp, only 23 miles from Hanoi. Due to the Rules of Engagement at the time, almost all the Navy aircraft were unarmed, dropping flares to simulate bomb strikes and dropping chaff to simulate a minelaying mission near Haiphong. The twenty North Vietnamese surface-to-air missiles fired at the Navy aircraft were fully armed, but all of them missed. The Navy diversion was a success and the Son Tay raid force got in and out of the target without significant casualties. The dangerous mission was almost flawlessly executed, but the North Vietnamese had moved all 65 POWs at Son Tay to a camp closer to Hanoi

in July 1970, resulting in extensive recriminations regarding the "failed" mission. Although unknown at the time, the "failed" mission resulted in a huge boost in morale for the POWs (tangible proof they had not been forgotten) as well as significantly better treatment of the POWs by the North Vietnamese.

For background on the origins of "Vietnamization" strategy, see H-Gram 028: *U.S. Navy Valor in Vietnam, 1969*.

In 1971, the Nixon administration's policy of "Vietnamization" of the war was in full stride, with the number of U.S. troops in the country and number of U.S. casualties rapidly decreasing as Republic of Vietnam (South Vietnam) troops were trained and took on more combat roles. Despite this, opposition to the Vietnam War continued to intensify in the United States, and groups such as Vietnam Veterans Against the War greatly increased in size and became increasingly vocal. A major test of the Vietnamization policy came in February 1971 when a 20,000-strong South Vietnamese force launched an offensive (Operation Lam Son 719) into Laos to cut the Ho Chi Minh Trail (the North Vietnamese supply route through Laos and Cambodia and into South Vietnam). Despite rosy pronouncements in Saigon and Washington, the South Vietnamese force got chewed up by intense North Vietnamese resistance and thrown back out of Laos with very heavy casualties (including 107 U.S. helicopters lost and 25X U.S. military personnel killed while trying to support the South Vietnamese.)

The Vietnamization of the naval war went much better, and by mid-1971, almost all riverine and coastal patrol missions and craft had been turned over to the South Vietnamese navy, although air support from the U.S. Navy's light attack helicopter squadron (HA(L)-3) "Seawolves" and light attack squadron (VA(L)-4) "Black Ponies" continued unabated. Naval gunfire missions along the South Vietnamese coast continued to dramatically decrease and U.S. Navy amphibious forces were

withdrawn from Vietnamese waters, although some remained in Subic Bay, Philippines, on alert. The previous successes of Operation Market Time (interdiction of seaborne infiltration of South Vietnam) resulted in the lowest number of infiltration attempts by North Vietnamese trawlers in 1971 (one trawler reached South Vietnam, nine aborted their missions when detected, and one was caught by U.S. Coast Guard, U.S. Navy, and Vietnamese navy vessels and blew up with the loss of all hands).

For more information on Vietnamization, see H-043-2: "Sojourn Through Hell"—Vietnamization and U.S. Navy Prisoners of War, 1969-70.

With the moratorium on bombing in North Vietnam still in effect (with some very limited exceptions) while interminable "Peace Talks" were ongoing in Paris, U.S. carrier strike operations were focused almost exclusively on interdicting the northern end of the Ho Chi Minh Trail through Laos, a very challenging mission resulting in significant losses with little strategic effect. At the start of 1971, the USN maintained a three attack carrier (CVA)-rotation, with two CVAs on Yankee Station (day/night) and one CVA in Subic for R&R and resupply, plus one ASW carrier (CVS) in the Gulf of Tonkin. The number of carriers on station and number of strike sorties steadily decreased throughout 1971 due in part to the weather (three typhoons) but mostly due to fiscal cutbacks necessitating conservation of fuel, ammunition, and aircraft flight hours. By the end of 1971, combat sorties were at the lowest level since Operation Rolling Thunder started in 1964. However, there were ominous signs at the end of the year that the situation was about to change. While talking peace in Paris, the North Vietnamese were actually preparing for a massive conventional invasion of South Vietnam in 1972, which would result in some of the most intense U.S. naval combat since WWII.

For more on the naval war in Vietnam in 1971, please see attachment H-059-2.

As always, you are welcome to forward H-grams to spread these stories of U.S. Navy valor and sacrifice. Prior issues of H-grams, enhanced with photos, can be found here [<https://www.history.navy.mil/about-us/leadership/director/directors-corner/h-grams.html>] ... plus lots of other cool stuff on Naval History and Heritage Command's website.

H-059-1: Operation Desert Storm, Part 7 (February/March 1991)

H-059-1: Desert Shield/Desert Storm Part 7 (February-March 1991)

Samuel J. Cox, Director, Naval History and Heritage Command

Desert Storm Deployment, USS *Blue Ridge* (LCC-19), September 1990–January 1991

Operation Desert Shield, Arabian Gulf, January–March 1991.

Mid-February 1991. Central Arabian Gulf, Underway on USS *Blue Ridge*. "The Great Scud Hunt."

This series is a departure from my normal H-Grams in that this is a personal recollection. I was the Current Intelligence Officer/Iraq Analyst on the Intelligence Staff of Commander, U.S. Naval Forces Central Command, for the entirety of Operations Desert Shield and Desert Storm, serving under VADM Hank Mauz and VADM Stan Arthur. I first wrote this a number of years after the fact but I kept it true to what I believed and understood to be true at the time, so my dim view of joint operations as conducted during Desert Storm (which held the Navy back from making maximum contribution to the war) and U.S. Central Command, particularly the Intelligence Support Architecture, will be readily apparent. My reward for this heresy was to spend 12 of the next 21 years in joint commands, including three years as commander of the U.S. Central Command Joint Intelligence Center, where I had opportunity to see significant improvement in U.S. joint operations.

"A monster hit on a monster target!" proclaimed the British officer spokesman with unconcealed glee, as the Tornado weapons systems video he was playing during the press conference showed seven closely-parked Iraqi mobile Scud surface-



The national ensign flies from the stern of a U.S. Navy ship at anchor in the Persian Gulf region during Operation Desert Storm in February 1991. (National Archives Identifier: 6468113)

to-surface missile launchers blowing up in a gigantic ball of fire. It was spectacular video, and I really wanted to believe it, but it just seemed too good to be true. It was.

I wanted the spokesman to be right, partially because the Brits were paying a significant toll for their participation in the air campaign, suffering disproportionate losses among their Tornado jet fighter-bombers. Apparently, the Tornado's weapon systems required low-altitude delivery, which prevented them from using the medium-altitude tactics that were working so well for our jets. As a result, the British pilots bravely kept flying through the dense anti-aircraft artillery environment, and bravely kept paying the price. Destroying seven mobile Scud launchers would

be a huge victory. I just couldn't figure why the Iraqis would have been so stupid as to park them in the open like that, especially since they had so completely confounded our efforts to find and destroy the mobile launchers before that.

Coalition air and special forces quickly wiped out the 28 or so fixed surface-to-surface launch pads in western Iraq, where they threatened Israel, during the first days of the war. The mobile launchers were a completely different story.

By the second night of the war, Iraq began retaliating for our strikes by using their home-made mobile launchers to fire indigenously modified versions of Soviet-designed Scud surface-to-surface ballistic missiles, that had sufficient range to just barely reach Israel, Riyadh in Saudi Arabia and, Bahrain. (The term "Scud" came to be used for a variety of surface-to-surface ballistic missiles in the Iraqi inventory, including actual Scuds, as well as several variants of the longer range "al Hussein" missiles which the Iraqis had built themselves, with North Korean help, from Scud parts.)

The Scuds, especially the modified ones, were wildly inaccurate and posed no significant military threat, although there was always the risk of an extremely lucky hit, such as the one late in the war in Dhahran on a barracks that resulted in the largest single loss of U.S. life in the war. The "al Hussein" was very good at terrorizing civilian populations in cities, and their political leaders. If an "al Hussein" was launched at a city the size of Tel Aviv or Riyadh, it had a reasonable chance of landing within the city limits and killing a fair number of people with its good-sized warhead. If the missile had a chemical warhead, which the Iraqis were known to be working on, then the terrorizing effectiveness of the weapon increased greatly.

A key component of Coalition strategy was to convince Israel to sit this war out. If Israel became involved, it would almost certainly fracture the

fragile coalition of Western and Arab countries, such as Syria and Egypt, that had been kluged together to counter Iraq. Hussein undoubtedly understood this weakness in the Coalition and made clear his intent to attack and provoke Israel into the conflict. His ballistic missile force was the only means that Hussein had that could realistically reach Israel. As a result, the U.S. promised Israel that we would prevent Hussein from launching missiles into Israel. With U.S. assurances, Israel reluctantly agreed to restrain itself for the time being.

True to his threat, Hussein fired "al Hussein" missiles into Israel (and later Saudi Arabia) the second night of the war. Several hit in Tel Aviv, killing a couple Israeli civilians, and making a mockery of the U.S. promises. A report of unknown authenticity, but that seemed plausible, reached our staff later in the war, claiming that as the first Iraqi missiles entered Israeli airspace, an Israeli strike force of F-4 Phantom fighter-bombers was already airborne over Jordan streaking toward Iraq. The assessment was that had the Iraqi missiles been armed with chemical, biological or even nuclear warheads, the F-4s would have proceeded to Baghdad with a retaliatory nuclear strike. The strike was recalled when the Israelis confirmed that the Iraqi missiles only had conventional high explosive warheads. True or not, the report showed just how high the stakes were.

Frustration rapidly mounted as the Iraqis fired missile after missile at Israel and Saudi Arabia, and a handful at Bahrain and Qatar, eventually totaling over 70 missiles. Although there were many reports that Coalition aircraft hit mobile mod-Scud launchers, none could be confirmed, and the missiles kept coming. It quickly became clear that the modified Iraqi ballistic missiles were unstable and were breaking up on their terminal entry, resulting in even greater inaccuracy and comparatively little damage on the ground. Despite this, the political pressure to stop the attacks reached a fever pitch.

We also had a very poor understanding of how many Scuds and Modified Scud variants were in the Iraqi inventory. Original order-of-battle databases at the start of Desert Shield indicated 150 or so. For some reason that I could not figure, the operators wanted to know a lot about Scud capabilities, despite the fact they posed negligible threat to moving ships. Through our CIA liaison team, we arranged to have a CIA expert on Scuds fly all the way out to brief us. The expert was quite attractive, who we henceforth referred to as the "Scud Lady." More importantly, she was also brilliant. But I was really glad that I wasn't the one to stand up in front of the Admiral and brief him that the national intelligence community, having now taken a much closer look at all intelligence, had come up with a new revised inventory of Iraqi ballistic missiles; somewhere between 400 and 800. "Gee, we've got that one nailed down real good," I commented in an aside.

As the weeks went on, more and more Coalition aircraft were diverted to the "Scud hunt" and U.S. Patriot missile batteries were rushed to defend Israel. I was pleasantly surprised by the reports of success that the Patriot missile were having intercepting the Iraqi ballistic missiles, particularly since I knew the Patriots were not designed to counter ballistic missiles. I had previously assumed there was no defense against a ballistic missile except diving into a ditch or by moving. Ships were in no danger from non-nuclear ballistic missiles, since such missiles had no active terminal guidance (2021 comment: at that time.) The odds of a moving ship being hit by a ballistic missile were practically zero. We weren't sweating them. (2021 Comment: The closest an Iraqi "al Hussein" ballistic missile came to hitting a ship was the night of 15-16 February when one impacted within the port facility of al Jubayl, UAE, about 1,000 yards from where Tarawa was moored to the quay.)

I got a laugh out of press reports describing the Scud as "old and slow." The design was certainly

"old," basically not much different from German V-2 rockets in WW II, but all ballistic missiles re-enter the atmosphere at extremely high speeds, five-to-seven times the speed of sound, slowing down to two-to-three times the speed of sound due to atmospheric resistance before they impact. They are extremely difficult targets to hit, even the "old" ones. As it turned out, the Iraqi missiles were breaking up due to their own bad design, not because they were being hit by Patriots. Even if the Scuds did get hit, Newton's Law says that what goes up, must come down, and several thousand pounds of metal (including the intercepting Patriot) are still going to land on something or someone.

As it became increasingly obvious that the Scud hunt was futile, it became a bone of contention between the Navy and Air Force. We became suspicious that the Air Force knew the mission was useless, but since they were in charge of the air campaign, they assigned ever increasing numbers of Navy aircraft to boring holes in the sky instead of hitting targets that mattered to us, and assigning the better targets for themselves. True or not, the Scuds were no threat to Navy forces, and other threats that were remained untouched for weeks while Navy jets chased the elusive Iraqi mobile ballistic missile launchers.

One day late in the air campaign, there was a big commotion when we received a report from U.S. Special Operations Forces that a mobile Scud launcher had been identified just north of the Saudi-Kuwait border, in a position where it would pose the maximum threat (because of minimum range) to Bahrain and cities or key oil facilities in eastern Saudi Arabia. The report was amazingly detailed, stating that the missile was in erect firing position, even describing the launcher's orientation azimuth. Every strike planning center in region scrambled to figure out the fastest way to attack the launcher. As it turned out, the "Scud" launcher was actually an oil derrick that had been in the exact same spot for decades. This event resulted in the production of a tongue-in-cheek

"Special Operations Scud Identification Guide" that made the fax machine rounds, identifying everything from oil towers, to cranes, to sheep and camels as "Scuds." We all got a good laugh at Special Operations expense.

A week or so after the British strike on the mobile launchers, I came across a human Intelligence report that had received little notice. Based on Jordanian press reporting, the report described how seven Jordanian tanker truck drivers, involved in smuggling UN-sanctioned oil out of Iraq, had been killed in a massive explosion a week earlier at a rest and refueling stop on the main road in western Iraq between Baghdad and the Jordanian border. I did some rudimentary "all-source analysis." So much for the "monster hit."

After the war, when UN weapons inspectors went into Iraq, it was conclusively determined that not a single Iraqi mobile ballistic missile launcher was destroyed by Coalition aircraft. In my view, a quote from Vice Admiral Arthur early in the campaign pretty much summed it up, "This Scud hunt is dumber than dirt."



USS *Blue Ridge* (LCC-19) Underway in the Pacific Ocean, circa 1990. This photograph was received with the ship's 1990 Command History submission. Official U.S. Navy Photograph, from the collections of the Naval History and Heritage Command. (NH 107691)

18 February 1991. Central Arabian Gulf, Underway on USS Blue Ridge. "Mine Warfare."

But for sheer luck, 18 February would have been the blackest day in U.S. Navy history since the sinking of the USS *Indianapolis* in July 1945. In shallow water like that of the Northern Arabian Gulf, the Italian-made Manta bottom influence mine will inflict catastrophic keel-breaking damage on any destroyer or cruiser-sized ship in the world. The only reason a billion dollar U.S. AEGIS-class guided missile cruiser and 300 of her crew are not resting on the bottom of the northern Arabian Gulf is because the Iraqis screwed up the sensitivity setting of the Manta mine that detonated too late, only damaging the USS *Princeton* (CG-59). Had the mine worked as designed, *Princeton* would have gone to the bottom in seconds, and in a single incident would have practically doubled the total number U.S. combat deaths in the entire Desert Storm operation, which would have had profound consequences for the future of the U.S. Navy. Because the worst did not happen, the U.S. Navy continues to bury its head in the sand and pay lip service to dealing effectively with the most cost-effective weapon in naval warfare, the mine. (2021 Comment: I think we do better at this now, but still....)



Adroit Marks the Way for Princeton. Painting, Oil on Canvas Board; by John Charles Roach; 1991; Framed Dimensions 26H X 34W. (92-007-X)

I'd no sooner set foot in the staff intelligence office early that morning than Lieutenant Commander Steve Carey (our Intelligence Collection Manager) hit me with, "Did you hear about the mines? Two of our ships were just hit." The news had the effect of a body blow, inflicting a sense of despair that I hadn't felt since the botched strike in Lebanon. It wasn't that I was surprised. I was actually expecting it, but still hoping that it wouldn't happen. The level of effort that the staff, and I personally, had put into trying to prevent it had been intense. To put so much work into something, only to fail, is crushing. On the other hand, we'd done the best we could with the assets we had, but the primary factor was CENTCOM's decision to concede maritime battle space to the enemy without a fight.

Although I considered the Iraqi Mirage F-1s with Exocet missiles to be the primary threat to U.S. and Coalition naval forces in the northern Arabian Gulf, I believed the mines were a very close second. The reason I didn't consider Iraqi mines the biggest threat was only because the Iraqis had not done much with them during the Iran-Iraq war; they had laid a few small defensive minefields with no reported success. The Iranians, on the other hand, using much the same types of mines as in the Iraqi inventory, had used them rather audaciously to great effect, a couple times to the great embarrassment of the U.S. Navy.

During the first Ernest Will convoy in 1987, in which U.S. warships provided escort for Kuwait tankers that had been re-flagged with the U.S. flag, the Iranians boldly used some small speed boats to lay mines right across the convoy's track. Despite the U.S. Navy escort, the supertanker *Bridgeton* hit one of the mines; although the hole was very large, on a huge ship the size of *Bridgeton*, the damage was comparatively light. The same size hole on a destroyer or cruiser size of ship would likely sink it. This led to the rather ignominious photo of the damaged *Bridgeton* leading the way into Kuwaiti waters with her erstwhile U.S. Navy escorts

following in her wake to protect themselves from mines. (2021 Comment: I've since heard that this was planned that way, but from a PR perspective it still looked bad.)

The Iranians even conducted "offensive" mining off Kuwaiti and Saudi ports, as well as laying a minefield off Fujairah, United Arab Emirates, which sank a couple commercial ships. The U.S. then caught the Iranians red-handed, capturing the small Iranian logistics ship *Iran Ajr*, fully loaded with moored contact mines, before all of them could be laid. Later, the frigate USS *Samuel B. Roberts* (FFG-58) steamed into a freshly laid Iranian minefield and struck a mine while trying to back out. Due to great luck (calm seas and alert lookouts seeing the mines before the ship hit one) and heroic damage control by her crew, the severely damaged *Samuel B. Roberts* did not sink. This incident led to further escalation in the quasi-war between Iran and the U.S. Navy, shortly afterward culminating in Operation Praying Mantis and the sinking of the Iranian frigate *Sahand* and the missile boat *Joshan*.

The Iranian experience with mine warfare was very much on my mind as I evaluated the Iraqi mine threat. All the Iraqis needed was the will to use their mines, and they could pose a grave threat to any U.S. naval operations or amphibious operations in the northern Arabian Gulf. I knew much more about Iranian mine warfare capability than the Iraqis. Iraqi mine capability had never been a high collection priority, since they were supposedly the "good guys" during the Iran-Iraq War.

The Intelligence estimate for how many and what types of mines were in the Iraqi inventory was very fuzzy. We believed the Iraqis had at least a thousand mines, possibly even two thousand, but because we knew they were actually manufacturing some of their own, we really had no firm idea how many they had. We knew almost nothing about Iraq's indigenous production, but estimated that they were standard moored

contact mines. (A moored contact mine is the classic floating ball with "horns," anchored to the bottom with a chain, seen in WWII movies. When a ship hits one of the horns, it creates a chemical reaction that initiates an electric charge and detonates the mine.)

Most of Iraq's mines were bought from the Soviet Union and most of those were standard moored contact mines, little changed from the original, but still effective, 1908 Russian design. We also knew the Iraqis had a number of Soviet bottom influence mines. (Bottom influence mines rest on the seabed and, depending on the type, are detonated based on either magnetic, acoustic, seismic (pressure) or combination effects from the target ship passing overhead. The detonation of a bottom influence mine causes a large gas bubble to rise underneath the target ship, which caused the ship to, in effect, fall into the bubble, which breaks the keel and sinks the ship. The more shallow the water, the more devastating the effect of a bottom influence mine.)

My biggest concern was the Manta bottom-influence mines that Iraq had bought from Italy; besides having considerable explosive force, their design and construction (very little metal) made them very difficult to find and sweep. A Manta could easily sink an amphibious ship and take several hundred Marines to the bottom. Given the severity of the threat, I found it astonishing that CENTCOM showed virtually no interest in any effort to increase intelligence collection against Iraqi mine capability or activity; it simply was never a CENTCOM priority.

The northern Arabian Gulf (actually, the entire Arabian Gulf) is ideal for mine warfare, primarily because it is so shallow. Moored contact and bottom influence mines can be laid with ease anywhere in the Arabian Gulf, including the areas where U.S. aircraft carriers would have to operate. Neither aircraft carriers nor even the battleships were designed to withstand the effect of a shallow bottom influence mine. Bottom influence mines

didn't exist when the battleships were designed, and the carriers were intended to operate in deep open ocean water. In water the depth of the Arabian Gulf, the effect of a bottom influence mine on a carrier or battleship would be severe, and quite possibly fatal, despite the large size of such ships.

The muddy bottom, characteristic of almost all the Arabian Gulf, was ideal for laying bottom influence mines; the bottom mines were very hard to find when they settled into the silt, but were still just as deadly. The high tidal variations in the northern Arabian Gulf had no real impact on bottom mines, but did put a lot of stress on moored contact mines. If not anchored at the right depth, the moored contact mines might float on the surface at low tide, or be too far below the surface to hit a ship at high tide.

The tides would occasionally cause the chains of moored contact mines to break, causing the mines to float to the surface and drift away with the current. Even after the end of the Iran-Iraq war, mines would periodically break away from abandoned or forgotten minefields, where currents would take them south, posing a threat to tankers and commercial shipping in the heavily trafficked southern Arabian Gulf. Some of these drifting mines were real mines, but false alarms were common. A frequent cause of false sightings were dead sheep carcasses, thrown off the "Sheep Ships" that transited between Australia and Saudi Arabia, which would float on their backs, feet up.

We got a lucky break early on due to an unusual lapse in normally good Iraqi operational security. I got a call from the Navy Operational Intelligence Center (NAVOPINTCEN) in late October. Analysts there had identified an Iraqi auxiliary ship, the Spasilac ARS, in a Kuwait port with mines on deck and more on the pier being loaded. Not surprisingly, the report caused much commotion on the staff. I was quite prepared to believe the report, but there was considerable skepticism on

the staff. For one, the Spasilac was not a minelayer, nor did it have any history of mine warfare activity. I argued this was not conclusive, since any ship could be used as a minelayer, and in fact the Iraqi Navy had no dedicated minelayers of any kind, but had laid mines in the past from auxiliary ships, and even their Super Frelon helicopters. When we got the image in over our by now antiquated FIST (Fleet Imagery Support Terminal), it seemed pretty clear to me that the NAVOPINTCEN analysts were right, although the limited resolution of the image made it a challenge to convince some of the die-hard skeptics.

Now that we had evidence indicating the Iraqis were laying or preparing to lay mines, the obvious questions were: how many, what type, and where? The next three months were an intensely frustrating attempt to answer those questions. We immediately requested that CENTCOM increase the priority of national and theater intelligence collection on Iraqi and Kuwaiti ports so we could try to see if more ships were involved and how often they were getting underway to lay mines. However, there wasn't enough collection capability to cover all top priority requirements, and mines were not among CENTCOM's highest priorities. Images of Iraqi and Kuwait ports remained few and far between for the duration of the operation, nowhere near frequently enough to discern any sort of operating pattern by Iraqi ships capable of laying mines.

The Iraqis also practiced great electronic emissions control. Ships conducting minelaying operations did not turn on their radars, even at night, and did not communicate on their radios, so there was no way to track them by these means. Human intelligence (HUMINT) on Iraqi minelaying was effectively non-existent, since HUMINT networks had not been established before the war, and HUMINT is a long-lead time capability. With virtually no imagery, signals or human intelligence, it was practically impossible

to know for sure the extent or location of Iraqi minelaying operations.

The biggest impediment to tracking Iraqi minelaying activity was the decision by CENTCOM early in Desert Shield to draw a line across the northern Arabian Gulf and forbid U.S. ships and aircraft from going north of it. The purpose of this restriction was to prevent an inadvertent incident between U.S. and Iraqi ships and aircraft that might precipitate open hostilities before the U.S. was ready and the build-up of forces complete. The result was that the Iraqi navy and air force had a sanctuary where they could operate with impunity, unseen by U.S. and coalition tactical surveillance and reconnaissance assets. The Iraqis used this gift from Allah, courtesy of General Schwarzkopf, to lay large numbers of mines (over 1,200) in international waters in violation of international law, without even being observed by U.S. or allied ships and aircraft, making the northern Arabian Gulf a vastly more dangerous place to operate when we would later need to go in there to support the ground campaign. With virtually no intelligence, and no surveillance and reconnaissance, we were pretty clueless about what the Iraqis were up to.

The Saudis found the first "drifter" in late December (2021 Comment: 21 December to be exact.) Like other mine events, this one was initially greeted with skepticism by others on the NAVCENT staff with questions like, "How do you know it's not an old mine from the Iran-Iraq war that broke free?" It seemed to me that many were desperate not to believe the seriousness of the mine threat, wanting to wish it away because of the profound impact it would have on our operations north of "the Line" whenever they commenced. However, by the end of December, a half-dozen more mines had floated across the line into areas where our ships were operating. The chance of hitting a floater was relatively remote, since they could be seen both by eyes and radar, which was not the case with a submerged mine. Nevertheless, the floaters did

pose a danger, since they were definitely hard to see, especially at night. They also posed a significant question: were the mines breaking free from newly laid fields, or were the Iraqis deliberately laying floating mines? Setting mines adrift is a violation of the Law of Armed Conflict, specifically the 1907 Hague Convention that established "the rules" for mine warfare.

Laying drifting mines is an act of war. So is laying mines in international water without announcement, which we believed the Iraqis were doing, but couldn't prove until the floaters started drifting south. As far as we were concerned on the NAVCENT staff, the Iraqis had already started the war, and VADM Arthur began agitating even more for CENTCOM to lift the prohibition on U.S. Navy reconnaissance flying over the northern Arabian Gulf. CENTCOM refused. The Air Force and Army were still not ready for the war to start.

With the onset of the drifters, coupled with the renewed planning for an actual amphibious landing in Kuwait, mines became the top priority on the NAVCENT staff. The chart I maintained with all the mine sighting locations and everything we knew about Iraqi mines suddenly became in very high demand at numerous planning meetings. I gave a number of briefings, some of which became rather contentious. The operators kept pressing for intelligence on where the minefields were. They didn't like my answer, "We don't know."

I laid out what we did know, and what we assessed, and they didn't like that either. I briefed that as of early January, at least two Iraqi ships, *Spasilac* ARS and *T-43* MSF (a minesweeper being used as a minelayer) were involved in minelaying operations, based on being imaged in the act of loading moored contact mines. We assessed that the amount of mines laid was "extensive," based on the fact that the first detected activity was three months earlier.

We also had been able to have a boarding team debrief the Indian master of a ship that had been allowed to go into the Iraqi port of Umm Qasr because it was carrying a cargo of food, medicine and peace activists. According to the ship's master, Iraqi ships were going out "every night" to lay mines during the two weeks his ship was in Umm Qasr. If Iraqi ships had been going out every night since October, there could easily be over a thousand mines in the waters of the northern Arabian Gulf. This estimate agitated the operators even more.

I lost track of how many times some know-it-all sarcastically suggested, "Why don't you get a navigation chart and look at the bottom contours, that way you can at least rule out some areas." And many times I suppressed the urge to respond, "Duh, no s*** Sherlock," responding only with, "We've already looked at that, the entire Arabian Gulf is ideally suited for both moored contact and bottom influence mines. No area can be ruled out due to depth or bottom composition."

We learned a lot from the Saudis and our Explosive Ordnance Disposal (EOD) teams who recovered a couple of the floaters and observed others before they destroyed them. (The means for destroying a floating mine involved dropping an EOD swimmer from a helicopter, who would swim up to the mine, place an explosive charge on it, before being picked up by the helicopter, which would detonate the charge and explode the mine.) Based on marine growth, the mines were not left over from the Iran-Iraq war; some had been in the water two-to-three months, others were very recently planted. Most of the mines still had lengths of chain attached, indicating they had broken free from their anchors. Several had no indication of chain attached, indicating they had been deliberately laid as drifters.

Most of the drifting mines were Iraqi-made, of a type we previously knew nothing about. By

exploiting one of the mines the Saudi's found, we determined the Iraqi designation was LUGM-145, and it was a crude, but workable, variation on standard Soviet-made moored contact mines.

Throughout the fall and into January, we tried all kinds of ways to try to figure out where the mines were laid. For example, certain versions of the Air Force E-3A AWACS (those with the "maritime" package) had the capability to record radar tracks of ships over time. We got hold of some of these plots to see if we could determine patterns of operations. In theory, if we could determine where ships were going, that might tell us where the mines were, since presumably the Iraqi ships would stay out of mined areas. This was inconclusive. The northern Arabian Gulf is so heavily cluttered with oil platforms and small boat traffic that the plots were basically useless blobs.

We also were able to get some "experimental" collection using a national overhead radar system, using it in a way that it might be able to detect moored contact mines just below the surface if they weren't too far under. The first readout provoked a lot of excitement, since it seemed to show a dozen mines off Kuwait City. I burst the bubble when I brought in a navigation chart and pointed out that the "mine" positions corresponded exactly with the buoys in the main shipping channel.

Somewhat more useful were various current drift modeling tools provided by our staff scientist. Once the floaters started drifting south, we tried to use these models to "backtrack" the mines, to try to figure out where they'd been laid. However, the models were comparatively crude, and without knowing exactly how long a mine might have been adrift, it was very difficult to reach any definitive conclusion. In fact, the models showed that the first drifting mines originated near Kharg Island, well within Iranian waters, which muddied the analysis. In addition, there were indications that the Iranians had found some drifting mines in their waters, which completely defied the model's

predictions for mines laid in Iraqi waters. Nevertheless, the drift models seemed to suggest that none of the drifting mines were coming from waters very close to the Kuwaiti and Iraqi shoreline. The implication was that the mines had been laid fairly far out at sea, near the edge of where a ship like the *T-43* or *Spasilac* could reach, lay mines, and return to port during the cover of darkness.

At the time the air campaign started on 17 January, my assessment was that the entire western half of the Arabian Gulf north of "the line" should be considered mined and dangerous; we simply could not prove that any of that area was not mined. I passed my assessment around to the N2, Commander Perras, and during multiple planning meetings. However, the persistent drumbeat continued from the operators demanding an intelligence assessment for the most likely location of the minefields. My equally persistent "don't know, don't have enough data" became increasingly unappreciated.

Finally, NAVOPINTCEN got formally tasked by someone to come up with an official estimate, which they dutifully did, although they included all the same caveats I'd been using. However, the NAVOPINTCEN "guesstimate" include specific coordinates for an assessed mined area, that ran from the Kuwait/Saudi border and then along an arc from Maradim Island to Qurah Island and then north to the Iraqi al Faw Peninsula.

NAVOPINTCEN's estimate actually proved to be fairly accurate, except the Iraqis laid the mines about 10-15 miles further out than the estimate showed. These coordinates were then converted into a "JOTS overlay" which was transmitted to all the U.S. ships, without the knowledge or approval of the NAVCENT intelligence staff. As a result, every U.S. ship equipped with a Navy Tactical Data System display had an area automatically depicted on the display that showed the mined area, but stripped of any of the caveats and uncertainty of analysis for how the coordinates were derived in the first place. (2021 Comment:

That the JOTS overlay was transmitted is a fact. I have seen no other reporting as to whether it influenced U.S. ships as to where they thought they were safe and where they weren't. Nevertheless, the initial starting point for the assembly of the U.S. minesweeping force was outside the NAVOPINTCEN estimate but actually in the outer Iraqi moored minefield belt. Numerous ships transited through this minefield multiple times without hitting the mines that were there.)

I believe that many U.S. ships were operating under the mistaken assumption that areas outside the delineated mine areas were "safe." This false assumption was reinforced, when U.S. surface ships, such as USS *Nicholas* operated with extraordinary audacity in the early days of the war, shelling and "liberating" Kuwait oil platforms serving as Iraqi observation posts (and capturing the first Iraqi prisoners of war during Desert Storm.) It wasn't until after the war that we learned some of these ships repeatedly transited through Iraqi minefields, but had the good fortune not to strike one.

Our quest to find the location of the Iraqi minefields continued even after the air war started. The first good indication came during the incident at Qurah Island about 24 January. During an engagement with U.S. aircraft and helicopters, an Iraqi supply ship trying to evade attack struck a mine and sank (This ship was identified as a "minelayer" in initial reports.) As the engagement unfolded, the small Iraqi garrison on Qurah surrendered to a U.S. helicopter flying overhead. U.S. Navy SEALs went ashore and captured some prisoners and documents, as well as liberating the first piece of Kuwaiti soil during Desert Storm. These provided little insight to mine locations (although the sunken supply ship provided a positive data point), but served as the impetus for a subsequent deliberate raid on the more substantial Iraqi garrison on Maradim Island.

The landing on Maradim Island was strongly pushed by Commander Perras for the specific purpose of capturing Iraqi documents that might give minefield locations. The raid took place about 29 Jan and was a success, and in fact we did get some Iraqi charts with minefield locations. Unfortunately, it only showed the area between the Kuwait-Saudi border and Maradim Island, but along with the mine location at Qurah Island showed that the minefield was further out than the NAVOPINTCEN estimate, and it confirmed there were a lot of mines in the extensive field.

In the pre-dawn hours of 18 February, U.S. ships began moving toward the Kuwait shore north of Qurah Island in order to begin preparations to move naval gunfire ships in to support the planned amphibious deception operation. The U.S. cruiser *Princeton* sailed into waters that had not been swept. The Commander of the British ships working with the U.S. task group balked, questioning on what basis the Americans deemed the area safe to operate, since his information indicated the area could be mined. I presume the British commander didn't have the "mine area" overlay that was giving U.S. ships a false sense of certainty.



USS *Tripoli* (LPH-10) returns to Naval Station, San Diego, as a commercial harbor tug maneuvers the vessel into port. *Tripoli* suffered hull damage when it struck an Iraqi mine on 18 February 1991 while on patrol during Operation Desert Storm. The vessel underwent repair in Bahrain prior to its return to San Diego. (National Archives Identifier: 6478092)

The first ship to hit a mine was USS *Tripoli*, ironically the flagship of the Minesweeping Task Force, carrying the MH-53 minesweeping helos and providing command and control to the U.S. and Coalition Minesweeping ships. *Tripoli* proved the adage "every ship is a minesweeper -- once." *Tripoli* hit a moored contact mine, which blew a massive hole near the bow, bigger than the one in USS *Cole* (DDG-67) at Aden in 2000. Fortunately, *Tripoli* was a large ship and was able to withstand the damage, although later inspection showed the *Tripoli* had been quite lucky.

A couple hours later, *Princeton* triggered a Manta bottom influence mine. The mine detonated prematurely, but even so severely shook *Princeton*, put a serious crack in the superstructure, and injured several Sailors. Some initial reports indicated *Princeton* triggered two mines, one underneath and one a couple hundred yards away. In that shallow water, a Manta detonating directly underneath would have sent the *Princeton* to the bottom. (2021)

Comment: In recent discussions with *Princeton*'s CO, CAPT Ted Hontz, it appears that the Manta actually detonated too late, most of the ship had already passed over, so damage was most extensive in the stern area. The damage was also even more extensive than even I had believed, and it is a testament to the sturdy construction of a Spruance/AEGIS hull (and sea state) that the ship did not break apart. Also of note CNO Gilday was in the crew of *Princeton* that day.)

Because no Sailors were killed and neither ship was lost, the true gravity of this incident was lost on most of the Navy, and certainly on CENTCOM. With only slightly less luck, both ships and many hundreds of Sailors (as well as all the minesweeping helos) could have been lost, and Desert Storm would have been far uglier and bloodier, with the Navy suffering the vast majority of casualties, against an enemy Navy that only came out of port to flee to Iran, and to lay mines in the dark.

The real lesson, though, is that if you concede battle space to the enemy without a fight, you should expect to pay dearly to get it back. "The line" could have been the costliest decision of the war.

24 February 1991. Central Arabian Gulf, Underway on USS Blue Ridge. "Over the Top."

The first deserters started coming across the front line about a week before the start of the ground campaign. At first it was just a handful of low-ranking Iraqi conscripts, but they told a consistent story of poor morale, poor or absent leadership, lack of food, water and ammunition, lack of will to fight, and despair at the relentless day-and-night pounding from Coalition aircraft. It was a hopeful counterpoint to the thousands of body bags that had been brought from the States in anticipation of the extensive American and Coalition casualties expected at the onset of the ground war. But no one wanted to get their hopes up too much in the event the reports proved too good to be true.

The atmosphere in the days leading to the start of the ground war was one of foreboding. The exact start of the ground offensive was a closely guarded secret known only to a very few, but we could sense it fast approaching. The weather was already starting to get hot and would only get worse with each passing week. The air campaign was going reasonably well (despite ourselves), but no one knew for sure what would happen when we launched offensive operations on the ground. Our troops were much better trained, equipped and, we believed, more motivated than the Iraqis.

The problem was that there were so many Iraqis, and they had been digging defensive fortifications and laying extensive minefields and obstacles largely unmolested for six months. They were preparing for a mode of warfare that had proved very effective in mowing down tens of thousands of Iranians. Over the preceding months, every increase in U.S. and coalition troop

strength was met by yet more Iraqi reinforcements pouring into Kuwait from newly activated divisions. We believed many of these divisions were understrength and in poor condition of readiness. But even so, there were still so many of them that if they chose to stand and fight they couldn't help but inflict considerable casualties; the landmines alone could kill many.

No one thought taking on the Iraqi army would be a cakewalk, especially the better trained, equipped and disciplined Iraqi Republican Guard armored forces. Time and battle-tested formulas required that offensive forces have a 3:1 ratio of troops and equipment in order to be assured of prevailing over a determined defense, 5:1 in order to decisively win. In even the best estimates, we were outnumbered 2:1 by the Iraqis. Potential Iraqi use of chemical weapons was a wildcard that could make the equations even worse. An awful lot was riding on the success of Coalition airstrikes in attriting Iraqi ground combat power before Coalition troops attacked into the teeth of prepared Iraqi defenses.

Not surprisingly, the Army wanted the Air Force to commence all-out bombing of Iraqi tanks and troops in Kuwait as soon as possible, while the Air Force sought to delay as long as possible in order to bomb as many strategic and command and control targets in Iraq that the Air Force believed would be a more effective way to end the war quickly than by "plinking" tanks in the desert. The Army became as frustrated with the Air Force as the Navy.

Trying to measure how much of the Iraqi forces were destroyed by airpower in order to achieve the force ratios desired by the Army before launching the attack became very controversial. Aircrew were prone to exaggeration of how much destruction they were causing on the ground, but would invariably become indignant and self-righteous when challenged. I remember looking at weapons systems infrared video that aircrew

claimed confirmed kills on Iraqi armored vehicles; all I could confirm was that the bombs detonated, presumably somewhere in Kuwait. On the other hand, bomb damage assessment coming out of Washington (by the National Photographic Interpretation Center, which belonged to the CIA at the time) was overly conservative. So much so that a joke went around that if the CIA saw a tank chassis on one side of a ditch, and the tank's turret lying upside down on the other side of the ditch, the CIA would call the tank "possibly" destroyed.

The truth was somewhere in between. Fewer tanks and armored vehicles were actually destroyed than claimed, but enough of them were hit that the psychological impact on the Iraqis was profound. Many Iraqi troops literally abandoned their armored vehicles, which were only serving as bomb bait. When the Air Force turned the B-52s on troop and armor concentrations most of the bombs landed in the desert, but the psychological shock to the Iraqis was intense.

The fixed defensive positions that worked well against the Iranians only served as good aimpoints for U.S. and coalition bombs. The Iranian Air Force only succeeded in conducting occasional inaccurate nuisance strikes during the Iran-Iraq War; U.S. bombing was relentless, intense, far more accurate, and around-the-clock. In the last week before the start of the ground campaign, when the Navy moved four carriers into the northern Arabian Gulf, Navy jets were dropping as many bombs on Iraqi troops as the B-52s, flying strike after strike into the "kill boxes" in Kuwait. (2021 Comment: Another bone of contention between the Navy and the JFACC was the refusal of the JFACC to assign the same kill-boxes to specific carriers, despite Navy request. The Navy position was that doing so would allow aircrews to become more familiar with targets in a particular kill-box, which would improve efficiency, and it would also allow for direct hand-off of identified but un-struck targets to the next strike from the same carrier. Instead, it seemed that every Navy strike into what appeared to be

randomly assigned kill-boxes essentially started from scratch. The Air Force position was that the Navy was trying to recreate the "route pack" methodology from Vietnam to which the JFACC commander was adamantly opposed.)

Apprehension was very high on *Blue Ridge* the day the ground war started and we were focused on the Marines ashore that belonged to MARCENT. The Marines would lead the Coalition offensive, attacking into the strongest and most heavily defended Iraqi positions, in order fix the Iraqis in place, enabling the Army to complete the wide swing to the west (the "Hail Mary" plan) and attack into the Iraqis flank to decisively defeat the Republican Guard armored forces and cut off their retreat.

The Marines would conduct their main attack without the originally planned supporting amphibious attack, although we would conduct an amphibious "demonstration," a feint intended to pin down Iraqi troops along the coast so they couldn't turn and counterattack the Marines coming from the southwest. The Marines expected a tough fight.

The Iraqi forces in southern Kuwait had actually conducted a vigorous spoiling attack into Khafji, Saudi Arabia at the very end of January that was only beaten back after some intense house-to-house combat, overwhelming airpower, battleship gunfire, and the first significant U.S. ground force casualties of the war (although most of the deaths were caused by a "friendly" air strike). As it turned out, the Iraqi divisions that conducted the Khafji attack had been seriously mauled and were no longer combat effective, made even worse by three more weeks of bombing and shelling. Some of the Iraqi troops even tried to surrender to a Pioneer Unmanned Aerial Vehicle (UAV) flying off one of the battleships providing spotting for 16" gunfire, or so the story was told.

The initial reports exceeded anyone's expectations. Marine combat engineers blew through the first defensive berm and breached the minefields and fire-trenches with minimal opposition (this success was partially due to great intelligence on where the minefields and defenses were). Marines poured through the gap.

Those Iraqis who chose to fight were quickly overpowered by Marine fire and maneuver. The Iraqis simply could not cope with the speed at which U.S. forces moved. Dispirited, disillusioned, and exhausted by constant one-sided air bombardment, most Iraqi forces had already either deserted and fled, or quickly surrendered. There were some isolated pockets of intense resistance, but by midday of the first day, Marine forces were cutting through the Iraqis and were already into the southern Kuwaiti oilfields, which had already been sabotaged by retreating Iraqi forces. All the well-heads had been blown and were on fire, filling the air of the battlefield with thick noxious smoke. Although the oil fires reduced visibility and created confusion, the Marines were quickly advancing to the outskirts of Kuwait City.

The Marines' advance was so stunning and rapid that General Schwarzkopf directed the Army to accelerate their timetable for launching their attack in order to take advantage of the Marines' success. The more cynical view, widespread on the NAVCENT staff, was that Schwarzkopf became worried that the Marines would be planting the flag at the U.S. Embassy in downtown Kuwait City before the U.S. Army had even crossed the line of departure. The Marines were supposed to be the "supporting attack" tying down Iraqi forces for the Army's "main effort." By the second day, an advanced Marine recon team did make it to the U.S. embassy and raised a flag, while Army units were still racing through the desert to attack Iraqi forces north and west of Kuwait City from the flank and rear.

By the end of the second day, Marines effectively held the perimeter of Kuwait City, and awaited the Coalition Arab forces, mostly Egyptian and Saudis, that were advancing up the coast road. In the original plan, the Marines were to secure the perimeter and the Coalition Arab forces would attack into Kuwait City and do the difficult house-to-house fighting under the theory that Arabic-speaking forces would be better at finding their way around a large Arab city. Avoiding urban combat would also reduce the number of U.S. casualties. As it turned out, the Egyptian attack into Kuwait City turned into a victory parade rather than bloody urban combat; all but a handful of diehard Iraqis were already fleeing for their lives.

By the third day of the ground war, apprehension was giving way to outright euphoria, especially after Army forces made short work of the vaunted Iraqi Republican Guard units that attempted to oppose the U.S. advance from the west. Although much of the Iraqi armor was already abandoned, due to fear of air attack, several pockets of Republican Guard armored units put up spirited resistance, but were no match for the speed, accuracy and vastly superior night-fighting capability of U.S. armor. More importantly, U.S. and Coalition casualties had been astonishingly light. Before the war, even the most optimistic estimates predicted 5,000 or more U.S. casualties, rather than the several dozen killed or wounded in the first days of the ground offensive. By the fourth day, it was clear that Desert Storm was a one-sided rout of truly historic proportions.

In the end, the Iraqi army simply lacked the will to fight. Still exhausted by the eight-year bloodbath of the Iran-Iraq War, the typical Iraqi soldier, who would fight tenaciously to defend Iraqi soil, did not understand why they were in Kuwait and did not believe in their mission. The bombing directed against Iraqi ground units had a lot to do with breaking the ground forces' will to resist. The strategic air campaign against Iraqi command and control was largely irrelevant; the Iraqi conscript

force in Kuwait had already been abandoned by their leaders. Poorly trained, with inadequate supplies, and treated like expendable cannon-fodder by their own leaders, the Iraqi army in Kuwait was defeated before the first shot was fired.



USS Missouri under Attack by Iraqi Silkworm. Painting, Oil on Canvas Board; by John Charles Roach; 1991; Framed Dimensions 28H X 34W (92-007-U)

25 February 1991. Central Arabian Gulf, Underway on USS Blue Ridge. "Silkworm Shot."

The stunning advance of the Marines on Kuwait City showed, in hindsight, that a supporting amphibious assault was not actually necessary. The decision to cancel the amphibious assault no doubt saved many U.S. lives. The substitute amphibious "demonstration" nearly proved costly because of our failure to destroy threat systems earlier in the campaign.

Following the mine strikes on *Tripoli* and *Princeton*, the plans to conduct amphibious raids and demonstrations in support of the impending ground campaign were scaled back considerably. The next time naval forces approached the Kuwaiti coast, the minesweepers would lead the way. With little time remaining before the start of the ground offensive, the minesweepers could

only a clear a small box. The new plan called for the battleship *Missouri* and several escort ships to operate in the swept box and conduct naval gunfire missions in an attempt to deceive the Iraqis into thinking an amphibious assault on the coast of Kuwait was impending, essentially reinforcing what the Iraqis already believed. On the day the ground assault started, U.S. amphibious ships were to come into the box, put landing craft in the water, and stage a deception amphibious assault that would do everything short of actually landing on the beach, although this plan too was scaled way back.

The Iraqis responded by hauling Silkworm anti-ship missile launchers out of hiding, and firing two missiles at *Missouri*. The Silkworm was the Chinese version of the old Soviet SS-N-2 Styx missiles that had been exported to Iraq (and Iran). Although the seeker technology was dated, and vulnerable to U.S. electronic countermeasures, the Chinese warhead was of more advanced design and packed a considerable wallop, much bigger than an Exocet. Even *Missouri* with its thick armor-plated belt would notice if it was hit by a Silkworm, and for smaller destroyer or frigate-sized warships a direct hit from a Silkworm could easily be mortal, or would certainly put it out of action.

The Iraqis had about seven Silkworm launchers. The towed launchers were mobile, but it would take an hour or so for the Iraqis to set up the launcher to fire, although well-trained and experienced crews could potentially do it faster. Although the Silkworm missile had the range to hit ships as far as 60 miles away, the Iraqis did not have a good way to see "over the horizon" to target the missile. If fired in the blind, the missile's seeker was even more likely to home in on one of the hundreds of Kuwaiti offshore oil platforms or large merchant tankers as it would the intended target. The seeker would go after the first large radar return that it saw.

In the early days of the war, reconnaissance flights and satellite imagery detected Silkworm launchers in open exposed positions on the Iraqi and Kuwaiti coasts. However, because the Silkworm launchers were on land, the Navy did not have permission to strike them. Instead, we had to submit them as a target nomination to the Joint Force Air Component Commander who would prioritize the target relative to other targets on the preplanned target list (the Master Air Attack Plan), and would direct Navy aircraft to bomb some motor vehicle assembly plant instead, because it was still the "strategic" phase of the air campaign. Even when the Silkworms were approved to strike, the process took so long that the launcher had since moved. Not surprisingly, when the JFACC decided that the time had come to start destroying tactical targets, the mobile Silkworm launchers were hidden and nowhere to be seen. As a result, a Silkworm launcher that could have and should have been killed in the opening days of the war, lived to get a shot off when U.S. warships were most vulnerable, operating in a constrained area within sight of shore.

Although a subsonic missile, the Silkworm is still fast and when fired by surprise at such close range there was very little time for the warships to react. One Silkworm fell in the water all by itself while the other Silkworm was shot down by a Sea Dart surface-to-air missile fired by HMS *Gloucester*, but only after the missile had already passed its closest point of approach to *Missouri* and other coalition warships, i.e., the Silkworm had already "missed" when it was shot down. Although the missile may have missed due to U.S. electronic countermeasures, it more likely was due to Iraqi error either in target data input or in maintaining the missile's seeker, i.e., Iraqi incompetence is probably the real reason a coalition ship was not hit and Sailors killed by the Silkworm missiles.

Although this instance is the only recorded case where the Iraqis fired a missile at Coalition ships,

there may have been another. Well after the end of the war as *Blue Ridge* was preparing to head for home, I received an intriguing report via circuitous means. Some Army engineers had found the remnants of the tail section of a missile along the shore near Khafji, Saudi Arabia. The details were somewhat sketchy and I was unable to get in contact with the original source, but what really caught my attention was that the fragments had Chinese markings, and the general description fit a Silkworm missile more than any other possibility. I plotted the location, and it roughly matched the point at which a Silkworm missile, fired from the southernmost detected Silkworm launcher position in Kuwait, would have reached fuel exhaustion. My supposition was that during the Battle of Khafji in late January, the Iraqis took a maximum range, line-of-bearing shot at the U.S. battleships providing gunfire support.

Although the Iraqis did not have effective over-the-horizon targeting capability, the muzzle flashes of 16" guns can be seen from a long way, and the Iraqis could easily have figured out the approximate location of the battleship. It would have been an extremely low-probability shot, but I envision some Iraqi battery commander going, "What the hell, why not? It may be the only chance we ever get to be a hero." If the Iraqis did shoot a Silkworm during the Battle of Khafji, the flight went completely undetected. (2021 Comment: It's also possible that these were floating debris from the Silkworm missiles fired against *Missouri* and they just happened to wash ashore at the fuel-exhaustion distance.)

27 February 1991. Central Arabian Gulf, Underway on USS Blue Ridge. "The Highway of Death."

The word raced through the staff spaces on *Blue Ridge*; some Navy pilots on the carriers were refusing to fly more strike missions against Iraqi forces attempting to retreat on the road north of Kuwait City because it had turned into a horrific one-sided slaughter of trapped Iraqi troops. Most everyone agreed with the pilots.

The Iraqi retreat from Kuwait actually began even before the start of the ground campaign, in fact parts of the Coalition ground campaign were started early out of concern that Iraqi forces would escape to fight another day. Many of the better-disciplined Iraqi Republican Guard forces managed to escape the trap by Marine and Coalition forces closing in from the south, while U.S. Army armored forces raced from the west trying to cut the escape route.

Regular Iraqi army forces began to flee in haphazard panic, along with the vicious Baathist thugs who were responsible for the vast majority atrocities in Kuwait, and were now trying to flee in stolen cars and trucks packed with looted Kuwaiti goods. The result was a massive traffic jam on the only main road leading back to Iraq from Kuwait City. The jam was soon compounded as U.S. aircraft bombed both ends, trapping the Iraqis in the middle.

Throughout the day, strike after strike rolled in on the sitting duck target. Thousands of vehicles were destroyed and thousands of Iraqis killed in a scale of carnage that boggled the mind. Twisted, mangled and burning vehicles stretched for over twenty miles, in some places ten to twenty vehicles across. Hundreds of defenseless, fleeing Iraqi foot soldiers were burned alive, many more blown to bits by blast and fragmentation. As the stomach-churning reports poured in, it became clear that this wasn't the elite Republican Guard forces being massacred, these were just the hapless Iraqi conscript force abandoned to their fate by Saddam Hussein, intermingled with Baathist looters who probably did deserve what they were getting. Concern began to mount in the senior ranks that the scale of the slaughter could split the fragile Coalition if Arab nations saw the mass killing of brother Arabs as unnecessary and excessive.

As reports of the "Highway of Death" filtered back to Washington, they were a major impetus in the Chairman of the Joint Chiefs of Staff, General

Colin Powell's decision to recommend to the Secretary of Defense and President that the ground campaign be terminated after only 100 hours. Most of the objectives of the war had been achieved. Although much of the Republican Guard had escaped, Kuwait was liberated, the Iraqi army defeated and routed, with astoundingly low Coalition casualties. There was no need for more useless killing. Although the decision to terminate the war early was later criticized by armchair generals who felt we needed to be more ruthless, it was the right decision.

March 1991. Kuwait City, Kuwait. "Vision of Hell."

The scale of destruction was astonishing. By this time I'd seen hundreds of photos of Kuwait City taken from satellite and reconnaissance aircraft; none had the resolution to detect the true extent of damage. From the air, most of the city seemed pretty intact. From the ground, it appeared that every window in the city was broken, every shop and house looted, gutted, trashed, many of them burned. The dense black pall of roiling smoke from hundreds of burning oil wells blocked out the sun. It looked like doomsday.

Commander Perras and I flew from Bahrain up to Kuwait City about two weeks after the end of the ground war to go to a meeting at the newly reopened U.S. embassy. It didn't seem so bad at first. The wind was blowing the smoke away from the airport, and we landed under a blue sky and bright sun, but the sight of dozens of blazing oil wells was unreal; they looked like orange traffic flares dotting the horizon. The airport was in ruins, the terminal intact on the outside but burned out and unsafe to enter on the inside. Our transportation plan quickly fell apart and we wound up hitching a ride on the back of a Humvee to the Army headquarters in order to find the ride that was supposed to pick us up at the airport. Sitting on the cargo on the back of the Humvee, blasted by the hot, smoky wind as we drove the airport perimeter road, I definitely felt out of place in my khakis. Everyone else was still in

combat gear; Commander Perras and I may have been among the first "tourists" into Kuwait City.

The drive from the airport to the embassy was mostly in silence; we were literally stunned by the damage. We had not conducted an amphibious landing into Kuwait primarily due to concern about how much destruction we would cause to the city. It was clear the Iraqis had done a pretty good job without our help. They had obviously looted practically everything of value from the city, and much of the booty, and the looters, were burned to a crisp in the smoking carnage of the "highway of death" north of the city. There were hardly any Kuwaitis to be seen. The euphoria of liberation that we had watched on CNN tapes had already passed. The party was over, and the Kuwaitis were engaged in the grim task of trying to find out how many people had really been killed, how many were missing and would never be seen again, and starting to rebuild.

As we made the turn northward on the coastal boulevard, we could still see the remnants of Iraqi fortifications intended to defend the beach against our amphibious attacks. The beach was still off-limits because many landmines were yet to be recovered. Much of the barbed wire and obstacles had already been removed, but enough still remained to indicate that the Iraqis were truly serious about defending the beach against an amphibious assault that they clearly believed was coming. If the Iraqi defenders had been motivated enough to stand and fight, they could have made any landing quite bloody. Shortly after the liberation of Kuwait City, U.S. forces found an extraordinarily detailed scale sand-table mock-up of the beach defenses, confirming that the Iraqis expended enormous effort to prepare to defend against our deception plan.

Although the threat of amphibious assault is credited with tying down several entire Iraqi divisions, thus diverting defenders away from main Coalition ground attack to the west, most of those divisions were down to skeletal strength

before the ground war even began. Those Iraqi soldiers that remained on the Kuwaiti coast at the end of the air campaign took flight before the amphibious landing would have even started. But even devoid of defenders, just the land mines and sea mines could have taken a terrible toll.

By the time we returned to the airport, the wind had changed and the smoke blacked out the mid-afternoon sun, an unnatural darkness not unlike the total eclipse I'd experienced in Nova Scotia in 1972, but far more sinister as this was done by the hand of man. The blowtorch flames of the burning oil wells stood out even more against the black sky in an unforgettable surreal, yet bizarrely beautiful vision. I felt strangely guilty for thinking that about a scene of hell on earth.

As our plane climbed through the smoke and broke through into the brilliant sunlight, the huge extent of the black cloud was clear, covering virtually the entirety of Kuwait and out into the Arabian Gulf. For some reason I was reminded of Wellington's comment after defeating Napoleon at Waterloo, "Nothing except a battle lost can be half so melancholy as a battle won."

Intelligence Staff for Commander, U.S. Naval Forces Central Command during Desert Storm:

(Original Seventh Fleet Staff)

Commander Wayne Perras (Fleet Intelligence Officer - N2)

Commander Jerry Rapin (Fleet Cryptologist and Deputy N2)

Lieutenant Commander Steve Carey (Collection Manager)

Lieutenant Commander Sam Cox (Current Intelligence)

Lieutenant Commander Alex Butterfield
(Plans/Policy and Primary Intelligence Watch Supervisor)

Captain Brad Sillman, USMC (Expeditionary Intelligence)

Lieutenant Dave Dobis (Cryptologic Resource Coordinator)

(Augmentees from Pacific Fleet/Intelligence Center Pacific)

Lieutenant Commander Scott Shuman (Strike Intelligence)

Lieutenant Steve Curran (Assistant Current Intelligence)

Lieutenant Bob Rose (Intelligence Watch and Assistant to Everybody)

In the next Desert Storm H-Gram:

- Man Overboard
- Casualties
- Aftermath
- Homeward Bound - Lessons Learned
- Return to Yokosuka

Source: Me. Although I wrote these pieces by memory a number of years after the fact, the best pretty comprehensive source for information on the U.S. Navy during Desert Shield/Desert Storm is still the two-volume set of *Desert Shield at Sea: What the Navy Really Did* and *Desert Storm at Sea: What the Navy Really Did* both by Marvin Pokrant (the NAVCENT/C7F CNA Rep during both operations): Greenwood Press, 1999. (It wasn't cheap). Also useful is the Department of the Navy, Office of the Chief of Naval Operations, *The United States Navy in Desert Shield, Desert Storm* of 15 May 1991, which has the best chronology and other facts and figures, although some number of them are "first reports (always wrong). I would note that these are more "PC" than my account. Also, *Shield and Storm: The United States*

Navy in the Persian Gulf War, by Edward J. Marolda and Robert J. Schneller: Naval Historical Center, 1998, is excellent.



Operation Market Time, Painting, Watercolor on Paper; by Gene Klebe; 1965; Framed Dimensions 31H X 39W. (88-162-K)

H-059-2: U.S. Navy in Vietnam— Late 1970 to December 1971

H-059.2

Samuel J. Cox, Director, Naval History and Heritage Command

28 January 2021

National Vietnam War Veterans Day is observed annually on 29 March (29 March 1973 is the date the last U.S. troops were withdrawn from Vietnam). It was first observed in 2012, when President Barack Obama issued a proclamation calling on “all Americans to observe this day with appropriate ceremonies and activities.” The Vietnam War Veterans Recognition Act was passed by Congress and signed into law in 2017

by President Donald Trump, making it an annual national day of observance.

50th Anniversary of the Vietnam War

Operation Ivory Coast/Kingpin-The Son Tay POW Camp Rescue Attempt-22 November 1970

During the Vietnam War the North Vietnamese operated 13 prisoner-of-war (POW) camps, five in Hanoi and eight elsewhere in the country, although not all at once. The vast majority of prisoners held by the North Vietnamese were U.S. Navy and Air Force aviators shot down during strike missions over North Vietnam dating to 1964 (Lieutenant (junior grade) Everett Alvarez, Jr.—downed 5 August 1964—was the first). By late

1969, U.S. leaders were well aware that U.S. POWs were being tortured and abused in captivity, thanks to the heroic actions of Commander Jeremiah Denton, Captain James Stockdale, Seaman Apprentice Douglas Hegdahl, and others (see H-Gram 043). There were also reports of an increasing number of Americans dying in North Vietnamese captivity. At that time, U.S. POWs were kept in small groups (isolated from each other) spread amongst multiple camps. In the spring of 1970, planning commenced in Washington under the strictest secrecy for a mission to rescue at least some U.S. POWs, eventually code-named Operation Ivory Coast with the execution phase termed Operation Kingpin. This was the first operation to be conducted directly under the control of the Chairman of the Joint Chiefs of Staff.

The camp selected for the operation was Son Tay, estimated to hold about 70 POWs and located about 23 miles west of the North Vietnamese capital of Hanoi. The camp was relatively isolated compared to the others, which made it a viable target, although it was still in an area with heavy air defenses and about 12,000 North Vietnamese troops within a five-mile radius. The operation was meticulously planned as a joint U.S. Air Force and U.S. Army effort. The Navy was not brought in until much later. In order to execute the dangerous operation, the amount and direction of moonlight was critical, along with the weather, resulting in only a very few opportunities to execute.

The raid force consisted of all volunteers (although they did not know what they were volunteering for), 56 U.S. Army (mostly Special Forces/Green Beret), and 92 U.S. Air Force personnel. The commander was Brigadier General LeRoy J. Manor, USAF, and the deputy commander was Colonel Arthur D. "Bull" Simons, USA. The aircraft for the mission were staged to five bases in Thailand and one in South Vietnam. The plan called for one C-130E(I) Combat Talon aircraft to navigate and lead a flight of 5 HH-53C

Super Jolly helicopters (one a gunship), and one HH-3E Jolly Green helicopter (that would deliberately crash land in the center of the compound with a 14-man assault force on board). With a maximum speed of 105 knots, this raid element would be very vulnerable penetrating so far into North Vietnamese air space. A second Combat Talon would lead five USAF A-1E Skyraiders to provide close air support, but also slow due to heavy ordnance load. Two HC-130P Hercules would provide tanking and back-up navigation support. The two main elements would proceed separately to the target. In addition, ten F-4D Phantom fighter-bombers would provide high cover and five F-105G Wild Weasel III fighter-bombers would distract and suppress North Vietnamese surface-to-air missile defenses.

On 5 November 1970, BG Manor and COL Simons flew out to the carrier task force (TF 77) flagship *America* (CVA-66) to meet with TF 77/Carrier Division FIVE commander, Vice Admiral Frederic A. Bardshar, to request that the Navy conduct a diversion in support of the Son Tay raid. Bardshar was a WWII Navy ace with eight kills as a F6F Hellcat pilot in command of Carrier Air Group 27 embarked on light carrier *Princeton* (CVL-23) before she was sunk from under him at the Battle of Leyte Gulf (Silver Star and three Distinguished Flying Crosses). He had also been in command of carrier *Constellation* (CVA-64) during the Gulf of Tonkin incident in August 1964, launching the first U.S. Navy strikes into North Vietnam in retaliation. As a rear admiral, he also led the investigation into the severe fire on carrier *Enterprise* (CVAN-65) that killed 27 and injured 314 crewmen in January 1969. VADM Bardshar agreed to execute the diversion, a simulated strike on the port of Haiphong, which would result in the largest U.S. Navy night carrier air operation of the war.

Originally planned for the night of 22-23 November, the raid had to be moved forward a day due to approaching Typhoon Patsy. The raid group began launching from Thailand at 2200 21

November for a time over target at 0219 22 November. The Navy diversion began launching from carriers *Ranger* (CVA-61), which had relieved *America*, and *Oriskany* (CVA-34) at 0100 22 November. It was *Oriskany*'s last night on Yankee Station of the deployment. A total of 59 Navy aircraft were launched or served as spares during the operation. *Oriskany* launched 25 aircraft of Carrier Air Wing NINETEEN (CVW-19) and *Ranger* launched 26 aircraft of CVW-2. *Hancock* (CVA-19), which had arrived on station that day, contributed two EKA-3B tanker aircraft that had pre-deployed and launched from Da Nang, South Vietnam.



USS *Sacramento* (AOE-1) crewmen use a burton rig to transfer 500-pound bombs to USS *Hancock* (CVA-19) whose aircraft participate in airstrikes over Vietnam. (K-31354)

At 0152 22 November, 20 A-7 Corsair IIs and A-6 Intruders from *Oriskany* (14 aircraft) and *Ranger* (six aircraft) entered North Vietnamese airspace along three tracks near Haiphong. One *Ranger* A-7 that was part of a six-plane Shrike Surface-to-Air Missile suppression package was a deck abort. The aircraft flew in pairs at stepped up altitudes to deconflict. Another 24 aircraft in 13 orbits remained just off the coast to provide support and additional diversion. Due to the restrictive rules of engagement at the time stemming from the bombing halt (since November 1968), most of the Navy aircraft were unarmed except for several that were part of a combat search and rescue package. The first two tracks dropped flares to

simulate bombing missions while the third track dropped chaff to simulate minelaying near Haiphong. None of the pilots knew the true purpose of why they were flying unarmed over North Vietnam yet they did their duty as ordered. Nevertheless, the diversion proved highly effective, resulting in saturation of the North Vietnamese air defense system and leading to a desperate reaction at 0217 during which the North Vietnamese launched 20 missiles at the U.S. Navy aircraft, all of which missed, and all in the opposite direction from where the raid forces were coming in from Thailand through Laos.

The raid force reached Son Tay without being detected. Although there was some initial confusion with another nearby compound, the raid landed at the target on time and executed the mission with exceptional precision exactly as planned, suffering only two minor injuries and leaving behind the one helicopter that had been deliberately crash landed (and then destroyed by demolition). Accounts vary widely as to how many North Vietnamese were killed. Unfortunately, no POWs were at Son Tay. All 65 POWs at Son Tay had been moved on 14 July 1970 to a compound about 15 miles closer to Hanoi, named by the POWs, "Camp Faith." This was actually a routine move as the North Vietnamese started consolidating POWs in to larger, more-centralized camps. The raid force was off the target in 28 minutes as planned.

By the time the raid was on the way back to Thailand, North Vietnamese air defenses were engaging the F-105G Wild Weasels, launching 36 SAMs starting about 0235. One F-105 was damaged by a missile. The F-105 that replaced the damaged aircraft was in turn severely damaged but still flyable; unfortunately, that jet ran out of fuel just as it reached the tanker and the crew had to eject (and were rescued). Two North Vietnamese Mig-21 Fishbed fighters were on alert at the airfield near Son Tay but did not launch despite repeated requests.

The daring Son Tay rescue attempt was quickly billed as a “tactical success” and “Intelligence failure.” The participants were awarded six Distinguished Service Crosses (Army), five Air Force Crosses, and at least 85 Silver Star medals. Outside of the military however, the raid was severely criticized as a total failure by the media and opponents of the war.

As for the “Intelligence failure,” detailed Intelligence about North Vietnamese POW camps was extremely difficult to come by. Using SR-71 Blackbird imagery to determine the presence of POWs, who were almost always kept indoors anyway, was a serious challenge due to insufficient resolution. Nevertheless, multiple reconnaissance flights over the summer and fall suggested the camp was occupied by “someone.”

A cryptic human intelligence report of uncertain reliability from a North Vietnamese source was received on 19 November. This report listed all known North Vietnamese prison camps (including the new “Camp Faith”) but did not list Son Tay. The absence of Son Tay from this list was the only indication that Son Tay might be empty. There is no indication to this day that anyone in any Intelligence agency knew the camp had been vacated. However, given the extreme secrecy of the planning, it would be conceivable that anyone who had such Intelligence would not have known a mission was being planned. Nevertheless, this last human Intelligence report was discussed all the way up to the Chairman of the Joint Chiefs of Staff. Consideration was given to shifting the operation to Camp Faith, but there was insufficient time to do that and still meet the narrow operational window, which was further precluded when the operation was advanced a day due to the oncoming typhoon. Waiting to the next window significantly increased the risk of operational compromise. The “go” order was given by the Chairman with the knowledge of the HUMINT report and in the hope that POWs might still be at the camp. (Some accounts attribute the inability to quickly adapt as an example of the

effect of “groupthink” – although there may be some truth to that, hindsight is always a big help).

In the torrent of criticism directed at the U.S. military for the failure of the raid (or for “violating” North Vietnamese air space and “expanding the war” for even attempting the raid—by 1971 there was no way to win this argument) some critics claimed that the failed raid would result in more suffering for the POWs. In fact, the effect was exactly the opposite. When news of the raid was smuggled into the camps (the method is in open source, but I’d prefer not to discuss it) it was a major boost to the morale of the POWs, knowing that they had not been forgotten. The Vietnamese accelerated the consolidation of the POWs, easing their isolation and enabling greater contact with other POWs, also a major psychological boost. POWs debriefed after the war said that abuse decreased and treatment, including medical care and even food, greatly improved in the aftermath of the raid.



Secretary of Defense Melvin R. Laird at microphones in Saigon as he arrived 8 January 1971 for a 4-day visit, with Nguyen Van Vy, South Vietnam's Minister of defense; U.S. Ambassador Ellsworth Bunker; General Creighton W. Abrams, Command of U.S. Forces in Vietnam; Secretary Laird; and Admiral Thomas H. Moorer, Chairman of the U.S. Joint Chiefs of Staff.

1971 Overview

By 1971, the war in Vietnam had become America’s longest war (to that point), with forces engaged in heavy combat since 1964. The Paris “Peace Talks” entered their fourth year with

almost nothing except the shape of the table to show for it. Most Americans still supported the war effort as well as President Richard Nixon's "Vietnamization" strategy. U.S. combat forces were rapidly drawing down (250,900 in 1970 to 156,800 at the end of 1971) as were casualties, but nevertheless 2,357 U.S. military personnel would be killed in Vietnam in 1971.

Despite this decrease in U.S. combat and casualties, opposition to the war in the United States only continued to increase, and in some cases became increasingly violent and definitely polarizing. For example on 1 March 1971, a bomb claimed by the anti-war group "Weather Underground" exploded inside the U.S. Capitol in the middle of the night, injuring no one, but causing over 300,000 dollars (about 2 million in today's dollars) worth of damage. During a three-day period in May 1971, over 12,000 protesters were arrested on the Capitol grounds while attempting to disrupt Congress. Over 500,000 protesters marched in April 1971 in Washington D.C. in opposition to the war, the largest crowd since 1969. The publishing of the "Pentagon Papers" by the New York Times in June 1971 showed a major difference between what senior officials in four administrations (Eisenhower, Kennedy, Johnson, and Nixon) were telling the American people about the war in Vietnam (overly optimistic) and what was really happening, blowing an even bigger hole in the already existing "credibility gap" of official government pronouncements.

Opposition to the war also increasing crept into the U.S. military and Navy ranks, to include even acts of sabotage that disrupted ships from getting underway for Vietnam (opposition on ships became much more pronounced starting in 1972). Between 1969 and 1971, the "Vietnam Veterans Against the War" grew from about 1,500 to as many as 20,000 members. On 23 April 1971, over 1,000 veterans threw their medals and other military paraphernalia over a fence at the U.S. Capitol in a very public demonstration of

opposition to the war. One of these veterans was Lieutenant (and future Senator and Presidential candidate) John Kerry, who was off active duty but still in the U.S. Naval Reserve at the time. Kerry had served on active duty from 1966 to 1970 including several months as the skipper of a swift boat in Vietnam, during which he was awarded a Silver Star, a Bronze Star with Combat "V" and three Purple Hearts. The day prior to the medal-throwing demonstration, Kerry had testified before a Senate committee and his words galvanized the anti-war groups even further, saying "Someone has to die so that President Nixon won't be—and these are his words—the first president to lose a war. How do you ask a man to be the last man to die in Vietnam? How do you ask a man to be the last man to die for a mistake?" The Navy tried to have Kerry court-martialed twice, but Secretary of Defense Melvin Laird refused. Kerry's war record became very controversial during the 2004 presidential campaign, which is beyond the scope of this H-Gram, other than to note that a 2004 U.S. Navy Inspector General investigation determined that Kerry's awards were "properly approved."

As opposition to the war mounted, many other U.S. military and Navy personnel continued to lay their lives on the line to do what their country asked of them to the utmost of their ability. For example, due to extreme operational security concerns, the volunteers for the Son Tay rescue mission were not told what their real target was until almost the last day. When informed that they would be flying hundreds of miles deep into North Vietnam air defenses to rescue U.S. Prisoners of War, the group leapt to their feet with a rousing cheer. The Navy deception pilots weren't told the purpose until after the fact, yet they still did their duty with extraordinary valor and dedication.

Vietnamization and U.S. Drawdown-1971

The "Vietnamization" strategy implemented by the Nixon Administration after being elected in 1968 proceeded reasonably well through 1971, at least

within the Vietnamese Navy (this was much less true in the Vietnamese Army). Vietnamese Navy units had performed credibly well during the incursion into Cambodia in the spring of 1970. On 6 January 1971, Secretary of Defense Melvin Laird announced that Vietnamization was ahead of schedule and the combat mission of U.S. troops would end by the summer of 1971.

The Navy Vietnamization program called for Vietnamese sailors to receive basic training from the U.S. and then to integrate initially as individuals aboard U.S. Navy riverine and coastal patrol boats to gain hands-on experience under close supervision. Gradually, more and more Vietnamese sailors would be integrated on the vessels, replacing U.S. Sailors, who would be sent back to the States. Then entire vessel would be handed over to the Vietnamese navy, then entire formations, and finally logistics and repair facilities as the Vietnamese navy became increasingly (relatively) self-sufficient. The Vietnamese navy grew from 18,000 personnel in 1968 to 32,000 at the end of 1970, while the U.S. Naval Force Vietnam drew down from 38,000 personnel in 1968 to 16,757 at the end of 1970, by which time the Navy had transferred 293 river patrol boats and 225 riverine assault craft to the Vietnamese navy and the U.S. River Patrol Force disestablished.

The USN role in SEALORDS officially ended in April 1971. SEALORDS was an acronym for Southeast Asia Lake, Ocean, River and Delta Strategy, implemented by Vice Admiral Elmo Zumwalt in November 1968 when he became Commander, Naval Forces Vietnam (COMNAVFORV) and Chief of the Naval Advisory Group, U.S. Military Assistance Command Vietnam (MACV). The disestablishment of SEALORDS also coincided with VADM Zumwalt being selected over a host of three and four-star admirals to be the Chief of Naval Operations.

One thing that the USN maintained at strength well into 1972 was direct-support air cover to

Vietnamese navy operations. This support was provided by the aggressive operations of Light Attack Helicopter Squadron THREE (HA(L)-3) "Seawolves" primarily flying armed UH-1B helicopters from shore, modified LSTs (landing ship tank), and other mobile afloat platforms. HA(L)-3 was the only helicopter squadron specifically formed for this mission. The Seawolves would be awarded a Presidential Unit Citation for their extraordinary performance during the war, at a significant cost, losing about nine helicopters to enemy fire and operational accidents in 1971 alone. Additional effective air support was provided by Light Attack Squadron FOUR (VA(L)-4) "Black Ponies" flying OV-10A/D Bronco light attack aircraft.

Although the 1968 Communist "Tet" Offensive is generally considered the turning point of the war, it was actually a major defeat for North Vietnamese forces in South Vietnam and especially for the Viet Cong Communists in the South (who frankly never really did recover from their staggering losses). The result was a period of relative calm in much of South Vietnam such that the need for naval gunfire support continually decreased. In 1969, U.S. ships on the gunline typically included one battleship (*New Jersey* (BB-62), the only battleship re-activated for the war) as well as one cruiser, four-to-ten destroyers, and two "rocket ships" (inshore fire support ships, such as *USS Carronade* (IFS-1), and later re-designated as LFR amphibious fire support ships (evolved from World War II LSMR rocket-launching amphibious vessels). *Carronade* in particular had a distinguished record with 13 battle stars, two Navy Unit Commendations and one Meritorious Unit Commendation). By 1971, the average number of gunfire support ships was down to three, one in the north in the I Corps area and two supporting South Vietnamese operations near the southern end of South Vietnam. The drawdown can be seen in the 5-inch ammunition expenditure for naval gunfire support—over 800,000 rounds in 1968, 454,000 rounds in 1969, 234,000 in 1970, and 114,000 in 1971.

The Vietnamization of Operation Market Time (the interdiction of Communist seaborne resupply into South Vietnam) continued with the turnover of the last four of 26 U.S. Coast Guard POINT-class cutters and the first four of seven former *Barnegat*-class small seaplane tenders, used as U.S. Coast Guard cutters during Market Time, and classified as frigates by the South Vietnamese navy (and would be the largest combatants in the South Vietnamese navy). The U.S. Navy turned over the radar picket destroyer escorts *Camp* (DER-251), and *Forester* (DER-334). Numerous other harbor craft, mine warfare, and amphibious craft were transferred to the Vietnamese navy (ultimately about 1,400 vessels and craft of all kinds).

Due to the previous success of Market Time, attempts at seaborne infiltration by North Vietnamese trawlers reached a new low in 1971. Of eleven trawlers detected making the attempt, only one made it through to deliver its cargo of supplies and ammunition for the Viet Cong. Nine of those trawlers aborted their mission as soon as they realized they had been detected. One of the trawlers was detected and tracked on 8 April 1971 and then destroyed in action on 11 April by USCGC *Morganthau* (WHEC-722), USCGC *Rush* (WHEC-723), USS *Antelope* (PG-86), and South Vietnamese motor gunboat *Kien Vang* (PGM-603). The SL-8 type trawler blew up in a massive explosion with the loss of all hands.

With the coast of South Vietnam seemingly increasingly secure, and no U.S. appetite for amphibious operations in North Vietnam, U.S. amphibious ships in Vietnamese waters became increasingly scarce. By mid-1971 both Amphibious Ready Group (ARG) Alpha and ARG Bravo had been withdrawn from Vietnam with some placed on alert status in the Philippines in the event of an evacuation of Americans from Vietnam.



Task Force 77 in formation off North Vietnam, March 1965. (USN 1111484)

Task Force 77 Operations - 1971

Something that could not be "Vietnamized" was air support provided by U.S. Navy aircraft carriers operating in the Gulf of Tonkin on Yankee Station as part of Task Force 77. Although the number of carriers was reduced from the peak of 1965-1969, the effort was still substantial. The average strike sorties per month was down from the 5,000-6,000 in 1968 to about 2,500 per month by 1971. At the beginning of 1971, the Navy kept a three-carrier rotation in the South China Sea, with two carriers conducting strike operations (a day carrier and a "noon-to-midnight" carrier), with the third carrier conducting resupply and rest and recreation, usually at Subic Bay, Philippines. A fourth anti-submarine carrier (Essex-class CVS) was generally on station was well and could conduct limited strikes with a number of embarked A-4 Skyhawks.

Carrier operations were hampered by a number of factors. One factor, which wasn't new, was the seasonal southwest monsoon from May to September that significantly hampered ability to find targets due to heavy rain and dense cloud cover. A new factor, however, was a decrease in the Navy's budget. Beginning in 1970, increasing restrictions were implemented to conserve fuel, ammunition and aircraft flight hours. However, the biggest frustration was probably the rules of engagement (ROE) in effect at the time.

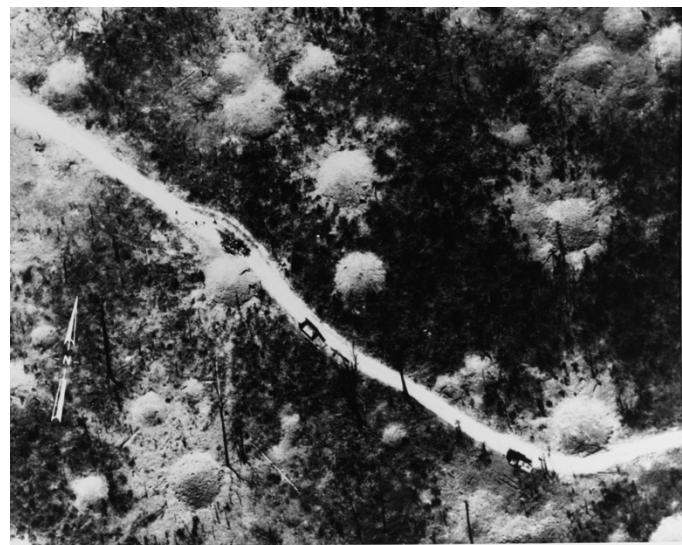
The bombing halt imposed by President Johnson in late 1968, ending Operation Rolling Thunder, was still in place, so with few exceptions, no targets could be struck in North Vietnam, while the Paris Peace Talks dragged on and on. This left the Vietnamese free to move their forces and supplies about at will, as well as to continue upgrading the air defense systems with significant Soviet and Communist Chinese assistance, much of it brought in by sea through the port of Haiphong which remained open to international traffic (per the ROE). It also gave the North Vietnamese the opportunity to repair much of the damage inflicted by Rolling Thunder and to ease their pain. The theory was that by not bombing them, the North Vietnamese would be more amenable to negotiating an end to the war in good faith. What they actually did was prepare for a massive conventional invasion of South Vietnam in 1972 (but that will be a future H-Gram).

The Rules of Engagement (ROE) did permit unarmed reconnaissance missions over North Vietnam. Such missions were frequent during this period and constituted the majority of U.S. Navy flight activity over North Vietnam. This was focused on detecting any build-up of North Vietnamese forces along the border with South Vietnam, to warn of potential offensive action. Such build-up was in fact detected and warning provided, but resulted in no response from U.S. political leadership.

On occasions, the North Vietnamese were naughty and fired on U.S. reconnaissance aircraft. In such cases the ROE permitted a response by "Protective Reaction Air Strikes" against enemy missile and anti-aircraft artillery sites south of the 19th Parallel (in the North Vietnamese "pan-handle"—Hanoi/Haiphong and the north remained off-limits to strikes). The use of such strikes was viewed in Washington as part of a strategy to pressure the North Vietnamese to negotiate (and not just reiterate unilateral demands). It had no such effect. However, some of the occasional protective reaction strikes could

be fairly sizable in retaliation for North Vietnamese radar tracking or missile launches against the unarmed reconnaissance flights. The morning after the Son Tay raid on 22 November 1970, 200 Navy aircraft from *Ranger*, *Oriskany*, and *Hancock* plus 200 more USAF aircraft struck North Vietnamese targets south of the 19th Parallel. *Oriskany* contributed 48 strike sorties on her last day on station.

The bombing halt did not apply to the North Vietnamese supply routes through Laos and Cambodia into South Vietnam, known as the "Ho Chi Minh Trail" (Ho Chi Minh was the leader of North Vietnam from 1945 until his death in 1969 (of natural causes), but the "Le Duan Trail" didn't have the same ring to it. "Ho Ho, Ho Chi Minh, the NLF is gonna win" was also a favorite chant of anti-war protesters, the "NLF" being the Vietnamese Communist "National Liberation Front.") USAF aircraft based in Thailand generally bombed the southern end of the route in Cambodia while U.S. Navy carrier aircraft bombed the northern end in Laos. Although some U.S. carrier strikes in 1971 were in support of South Vietnamese and remaining U.S. troops in South Vietnam, the vast majority of strike sorties were dedicated to the Ho Chi Minh Trail in Laos.



An aerial view of the Ho Chi Minh Trail in Laos. This view taken from 4,700 feet shows two camouflaged enemy trucks which appear to be in good condition. A third appears to be damaged or destroyed. Notice the road winding around bomb craters. Location 16° 17' 52" N, 106° 36' 59" E. 16 January 1970. (USN 1144308)

The Ho Chi Minh Trail was actually a very tough target. (It was also in the territory of Cambodia and Laos, countries ostensibly not involved in the war, although both were engaged in fighting against their own Communist insurgencies, aided and abetted by the North Vietnamese. Neither Cambodia nor Laos had the capability to control their own territory and North Vietnamese forces operated in the border areas of Cambodia and Laos at will. The full extent of U.S. involvement in Cambodia and Laos was kept secret from the American public, and would backfire later).

The Ho Chi Minh Trail was actually a complex network of multiple primitive roads and trails through dense jungle and steep hills. Damage to any part of the trail was easily bypassed and often quickly repaired. North Vietnamese vehicle traffic on the trail in 1971 generally consisted of 1,000 to 1,400 truckloads per day, but much of the supplies were carried by foot or pack animal. Antiaircraft artillery and machine guns were easily concealed by the jungle canopy and were frequently moved, popping up in unexpected places. Between 1968 and 1971, 130 U.S. Navy aircraft were lost bombing the Ho Chi Minh Trail, and many of the aircrews were lost due to the difficulty of mounting rescue attempts that far inland in enemy-controlled territory. Nevertheless, carrier aircraft bombed (and dispensed land-mines) that destroyed numerous truck convoys, vehicle parks, ammunition storage sites, bridges, road chokepoints, and AAA positions. Although these strikes were effective in the sense of hitting the targets and inflicting great pain on the North Vietnamese, the overall strategic effect was not so great, as the North Vietnamese supplies kept moving. (Navy aircraft also dispensed numerous "acoubouys," modified sonobouys intended to detect and report the vibrations of truck traffic - these sensors became increasingly sophisticated and sensitive as the war went on).

At the start of 1971, *Ranger*, had relieved *America*, and *Hancock* had relieved *Oriskany*, joined by *Kitty Hawk* (CVA-63) on the three-carrier

Yankee Station rotation. *Shangri-La* (CVS-38) was still on station as the ASW carrier. By the end of January, these three carriers (two on/one off) had flown 3,314 strike sorties that month, with 3,128 devoted to bombing the Ho Chi Minh Trail, with the remainder being mostly reconnaissance missions over North Vietnam and electronic warfare missions.

On 8 February 1971, the South Vietnamese Army (Army of the Republic of Vietnam—ARVN) commenced a major offensive operation into Laos (Operation Lam Son 719), with about 20,000 troops, supported by U.S. forces, with intent to cut the Ho Chi Minh Trail by land. *Hancock* provided much of the close air support for the operation (much of it badly coordinated as many lessons learned during the peak of the fighting in 1968-69 had been lost as experienced U.S. air controllers had been withdrawn). Nevertheless, the Navy air support was critical in bombing the mountain passes between Laos and Vietnam, preventing the operation from turning into a worse debacle than it did. The operation would prove an example of the mismatch between official pronouncements and reality that would be exposed in the publication of the Pentagon Papers later in the year. While officials in Washington were extolling the success of the Vietnamization effort, the advance of the ARVN into Laos in their first major offensive operation, and of the high North Vietnamese body count (which was true), the ARVN actually ran into a buzzsaw of intense North Vietnamese resistance. What the TV news cameras were showing were images of bloodied and battered ARVN troops desperately retreating back down the mountains and out of the jungle from Laos, not a successful offensive.

The ARVN suffered over 9,000 casualties including 2,000 soldiers dead, missing or captured in Lam Son 719. The U.S. suffered the loss of 107 helicopters and another 544 helicopters damaged, 54 tanks destroyed, and the death of 253 U.S. military personnel. No matter how Washington tried to spin it, the first

major offensive by the new ARVN was a psychological disaster. Some historians contend that this was the real turning point of the Vietnam War, when the rank and file ARVN soldiers became completely disillusioned with their military and political leadership, and lost their confidence in themselves to beat the North Vietnamese army as well as their will to fight in defense of what had clearly become a corrupt government. (South Vietnamese President Thieu would "win" reelection with 94% of the vote in October 1971, after all other candidates had dropped out or been forced out of the running, in an election widely and accurately viewed as rigged).

In the meantime, the carriers on Yankee Station kept bombing the Ho Chi Minh Trail. In late February, the two carriers on station at any one time were averaging a combined pace of 122 sorties per day. On 10 March, *Ranger* and *Kitty Hawk* set a single day record of 233 strike sorties, while also credited with a strike effectiveness (hits per sortie) record. In March, the carriers flew 4,535 sorties, with 4,479 against targets on the trails in Laos. A-7 Corsair II bombers also commenced night and all weather (land) minelaying missions previously conducted only by the A-6A Intruders. Carrier aircraft also dropped 680 acouбouy sensors along the trail in March.

In April 1971, *Kitty Hawk*, *Ranger*, and *Hancock* continued a rotation to keep two carriers on Yankee Station for day and night strikes, but the deteriorating monsoon weather conditions reduced strike sorties to 3,648, including 12 protective reaction strike sorties into southern North Vietnam and the rest focused on interdiction in Laos. *Ticonderoga* (CVS-14) relieved *Shangri-La* as the ASW carrier. In May 1971, carrier presence was reduced to one for an extended period, with *Hancock* remaining on station while *Kitty Hawk* and *Ranger* underwent maintenance in Japan. The combination of weather and the conservation measures limited strikes to 60-70 per day and the monthly strike

sortie total continued to drop to 2,645. Reconnaissance flights detected increasing North Vietnamese SAM coverage south of the 20th Parallel (where it could affect flights between the demilitarized zone (17th Parallel and the 19th Parallel), but outside where U.S. aircraft were permitted to strike them if fired upon).

In June 1971, *Midway* (CVA-41) relieved *Ranger*, which returned to the States. After a very quick turn in the States, *Oriskany* re-deployed to the Gulf of Tonkin, relieving *Hancock*. Monsoon conditions continued to affect strike operations. The TF-77 carriers maintained 14 "two carrier days" and 16 "one carrier days" in June, with 2,431 strike sorties. Although the number of "two carrier days" increased to 22 in July, the effects of three consecutive typhoons reduced strike sorties to a new low of 2,001.

On 28 July 1971, Helicopter Squadron HC-7 became the second Navy helo squadron to be awarded a Presidential Unit Citation. Operating multiple kinds of helicopters from carriers and other ships, HC-7 operated from 1967 to 1975, and at the time of the PUC award was credited with rescuing 76 aviators. Some of the earliest rescues were conducted well inland under heavy fire (one resulting in the Medal of Honor for Lieutenant (junior grade) Clyde E. Lassen in June 1968). Most rescues were subsequently conducted in waters along the coast of Vietnam as improving North Vietnamese air defenses made inland rescues prohibitively dangerous.

Although weather began to improve, the increasing effect of budgetary fuel and ammunition conservation began to have the predominant effect on reducing carrier strike sorties. In August, duel-carrier operations were conducted only during the first week. Newly arrived nuclear carrier *Enterprise*, relieving *Kitty Hawk*, remained alone on Yankee Station most of the month, and monthly strike sorties declined to 1,915. The reduction continued in September, with only one day of dual-carrier operations,

with *Midway*, *Enterprise* and *Oriskany* each operating alone for periods. Sorties dropped to 1,243 per month, including a 21 September protective reaction strike. Through October, *Midway*, *Enterprise*, and *Oriskany* continued to operate one-at-a-time with sorties continuing to drop to 1,024. In a significant development in October, the North Vietnamese deployed two MiG-21 Fishbed fighters to each of three airfields south of the 20th Parallel (the significance of this would play out in early 1972. No North Vietnamese fighters had seriously engaged U.S. aircraft since a Navy VF-142 F-4 Phantom II downed a Mig-21 in March 1970).

In November 1971, U.S. carrier strikes increased somewhat to 1,766 including nine strike sorties into South Vietnam and 12 into North Vietnam including a protective reaction strike on Vinh airfield.

On 2 December 1971, the U.S. Naval Air Facility at Cam Ranh Bay, South Vietnam was disestablished. Navy patrol squadron (VP) detachments that had operated from Cam Ranh in support of Market Time and other operations were relocated, some to Cubi Point, Philippines.

On 15 December 1972, carrier *Coral Sea* (CVA-43) arrived in the Gulf of Tonkin with U.S. Marine A-6A Intruder squadron VMA(AW)-225 embarked. This was the first Marine squadron to conduct combat operations from a carrier in the Vietnam War. *Coral Sea* joined recently arrived *Constellation*, which relieved *Midway*. However, at the end of the month, *Enterprise* was ordered to proceed to the Indian Ocean/Bay of Bengal to cover a potential evacuation of U.S. citizens from East Pakistan after war broke out between India and Pakistan (the war would result in East Pakistan becoming the independent nation of Bangladesh). *Constellation* would be extended to cover the gap by *Enterprise*. The month of December was also noteworthy for an increasing number of SAM launches (resulting in the loss of ten U.S. Navy aircraft over southern North

Vietnam and Laos), as well as initial and increasing number of North Korean MiG incursions into Laos, threatening U.S. aircraft.

By the end of 1971, it appeared that the Vietnam War was finally winding down, at least that is how senior officials in Washington would spin it. The reality was that 1972 would see some of the most intense U.S. naval combat by air and at sea since World War II (arguably "the" most intense, including up to today). This will be covered in a future H-Gram.

(Sources include; *Son Tay Raid: American POWs in Vietnam were not Forgotten*, by John Gargus: Texas A&M University Press, College Station, TX, 2007. *The Naval Air War in Vietnam*, by Peter B. Mersky and Norman Polmar: Nautical and Aviation Publishing Co. of America, Baltimore, 1986. *By Sea, Air, and Land: An Illustrated History of the U.S. Navy and the War in Southeast Asia*, by Edward Marolda: Naval Historical Center, Department of the Navy, 1994. *United States Naval Aviation: 1910-2010 Volume I*, by Mark L. Evans and Roy A. Grossnick: Naval History and Heritage Command, Washington DC).