





# Tidal Wave

**It took sheer courage, and lots of it, for each bomber crew to press on into a huge cloud of flak at Ploesti.**

**By Walter J. Boyne**

**T**he Aug. 1, 1943 air raid on Ploesti, Romania, had an ambitious goal: Shorten World War II by knocking out much of Germany's petroleum production in a single blow. Called Operation Tidal Wave, the attack by five United States Army Air Forces bomber groups on Ploesti was well-planned and well-rehearsed.

It was undermined by an incorrect premise and faulty intelligence. The American forces operated under the illusion that a single strike could do irreparable damage to a major target. More immediately, American intelligence totally underestimated the strength and skill of the combined German-Romanian resistance and the ability of German intelligence.

Only the indomitable bravery of the Ploesti airmen under fire rescued the attack from failure. What might have been an utter disaster was turned into an admittedly costly American victory that established new standards for combat initiative, aggressiveness, and tenacity.

The raid called forth thousands of acts of heroism, most of them unrecorded, lost in the fiery crashes of B-24s disintegrating under the heavy German fire. There was one common denominator, however, easily measured. That was the sheer courage necessary for each bomber to press on to its target, flying into a huge black hurricane of anti-aircraft fire.

This was no impetuous attack, no spur of the moment decision, but rather

a carefully thought out charge into the mouth of almost certain death.

In wartime, heroism is often overlooked in the press of events. That was not so with Ploesti, for a cascade of decorations proved how much the AAF leadership understood the risks and appreciated the sacrifice.

Five Medals of Honor were awarded from the mission that day, more than in any other single air action. There was a profusion of other medals as well, but the most important accolade shared by the survivors was the permanent acknowledgement that they had accomplished an important and dangerous mission.

Ploesti, a city of 100,000, was ringed by seven major refineries that produced about one-third of Germany's oil and

one-third of its aviation fuel. Air Force planners recognized from the start that it would be an extremely difficult target. It was located far from feasible bases and well-defended.

The impetus for the attack came from the very top, for it was agreed upon by Prime Minister Winston Churchill and President Roosevelt at the Casablanca Conference in January 1943.

No one asked the commander of Ninth Air Force, Maj. Gen. Lewis H. Brereton, if the mission was feasible. He was simply ordered to do it. Brereton selected Brig. Gen. Uzal G. Ent to oversee preparations for the raid, and also had the services of Col. Jacob E. Smart, a trusted advisor to Gen. Henry H. "Hap" Arnold.

It was Smart who proposed a low-level mission, an extraordinary departure from the cherished AAF doctrine of high-altitude precision bombing.

Smart—who was later shot down, spent 11 months as a prisoner of war, and ultimately retired as a four-star general—felt there was no choice. Analysis indicated that at least 1,400 heavy bombers were necessary to achieve success with a high-altitude raid, and these were not available. He opted for the one tactic that might work—a surprise low-level attack. Col. Edward J. Timberlake planned

the mission, and selected Maj. John L. Jerstad as operations officer.

There would be fewer than 200 bombers for the 2,300-mile round-trip mission.

In one way the raid was unlike most of those fought in Europe. The American forces were quartered in the Libyan wasteland in austere, uncomfortable accommodations and unhygienic conditions. The defending Germans, happy not to be on the Eastern Front, were enjoying the Romanian summer, where food, liquor, women, and gasoline were readily available.

Dysentery was rife in the American camp, striking even the top leaders, while on the German side the greater hazard was from hangovers.

### Unfounded Optimism

Under Smart's guidance, the Americans planned a low-level attack to evade German radar and allow a simultaneous assault against the seven key targets. The time over target for the attacking wave was to be so brief that the bombers were intended to be en route home before the flak could respond or fighters scrambled.

This optimistic view was clouded when an Axis prisoner revealed that Ploesti was heavily defended. The mis-

sion was so important that Ent confided that "if nobody comes back, the results will be worth the cost."

German strategy was based on experience and helpfully stimulated by the only previous American attack on Ploesti.

When the United States declared war on Nazi-occupied Romania and Hungary on June 5, 1942, a decision was made to attack Ploesti. On June 12, 1942, 12 B-24s raided Ploesti—the first American bombing raid on a European target. The damage to the oil refineries was minimal but all 12 bombers landed safely—six in Iraq, two in Syria, and four in Turkey, where the aircraft were seized and the crews interned.

That raid was a gift to Col. Alfred Gerstenberg, the wily Luftwaffe officer commanding Ploesti's defenses. At a time when every gun and fighter was required either for the Eastern Front or the air defense of Germany, Gerstenberg used the importance of the Ploesti petroleum output and its vulnerability to Allied air raids to obtain massive defensive reinforcements.

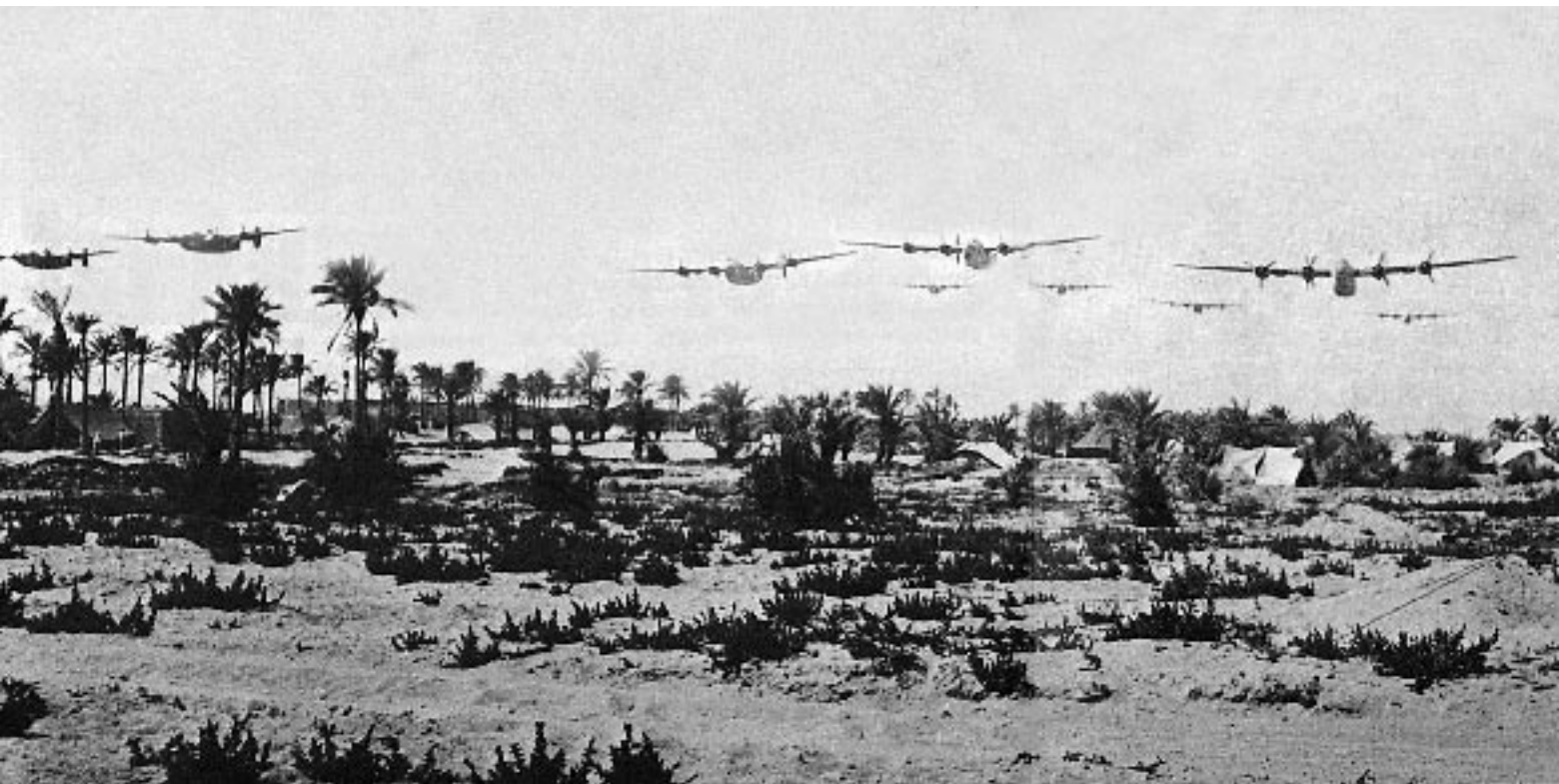
Gerstenberg connected the important refineries circling Ploesti with a ring of piping that allowed him to isolate damage and facilitate repairs.

He then placed another ring around the city. This one comprised 237 separate 88 mm and 105 mm anti-aircraft guns. There were also hundreds of batteries of 37 mm and 20 mm cannons, balloons, light flak towers, and countless machine gun installations.

Gerstenberg camouflaged his anti-aircraft guns in buildings and haystacks. His piece de resistance was a train able



*Opposite, thick oil smoke rises over Columbia Aquila refinery. Left, an unidentified Ninth Air Force aircrew member fastens up his flak suit before the Operation Tidal Wave mission.*



to move through the target area pulling freight cars laden with concealed anti-aircraft batteries.

For interception, Gerstenberg had 52 Messerschmitt Bf-109s and 17 twin-engine Messerschmitt Bf-110s within 20 miles of Ploesti. Half of the 109s were flown by German and half by Romanian pilots. Also available were other German and Romanian aircraft, along with Bulgarian units.

Even more important, Gerstenberg had established a radar interception net along with an efficient signal detection unit in Athens which was monitoring Ninth Air Force transmissions. These were fed to the equivalent of a modern combined air operations center, a sophisticated fighter command headquarters in Bucharest. There the route of the “secret mission” was tracked soon after takeoff.

In short, Gerstenberg had been preparing for years to defend Ploesti. His antagonists had six weeks to prepare to attack it.

Yet American preparation was thorough. A low-level attack offers definite advantages, such as greater bombing accuracy. It also makes it more difficult for fighters to attack and gives enemy anti-aircraft gunners less time to fire.

Low-level assaults also have distinct disadvantages. The B-24 was not designed for close formation low-level work, and flying in formation at high

speeds, close to the ground, in turbulent air, is dangerous. Navigating unfamiliar terrain while coming in low might make the enemy anti-aircraft gunner’s job more difficult, but it also exposed the aircraft to every sort of ground fire, from pistols to 105 mm cannon.

Practice low-level strikes attacked enemy installations in Sicily. Both the new low-level bombsight and the tactics seemed effective.

Engineers also laid out dummy targets in the desert around Benghazi, complete with scale replicas of the refineries. A detailed sand-table model of Ploesti was constructed and a series of oblique sketches of the targets was made so that the aircrews would recognize them on their approach. There were models of specific buildings within the five refineries in Ploesti; the refinery at Campina, 18 miles northwest of the city; and one at Brazi, five miles to the south. These seven major targets were assigned to elements of the five groups.

### Soapsuds

Famous Hollywood journalist and publicity man John Reagan “Tex” McCrary made a training film called “Soapsuds” (the original code name for the mission), which gave a good representation of the target. It should have been titled “Whistling in the Dark,” however, for it predicted a weak defense and that

the Romanians would leave their guns unmanned during the attack.

On a more practical level, the five groups practiced low-level formation flying, including two mock missions involving the entire task force on July 28 and 29. On the second mission, the task force destroyed the entire target in just two minutes, boosting morale.

Then, a crew shortage threatened. Extra efforts by maintenance personnel made additional aircraft available for the mission at the same time that dysentery forced several men off flying status. The problem was compounded when Hap Arnold sent orders forbidding Brereton, Timberlake, and Smart from flying on the mission. It took a judicious shuffling of available personnel to make up the deficiencies.

In the early morning hours of Aug. 1, the strike was launched with 178 Consolidated B-24s taking off from Libya, their sand-scoured engines straining to get them airborne.

There were 1,764 crewmen—and an Englishman, RAF Squadron Leader George C. Barwell—who was there unofficially and welcome for his gunnery expertise.

One aircraft crashed shortly after takeoff, incurring the first of the day’s many casualties.

Each B-24 was equipped with extra bomb-bay tanks and fueled with 3,100 gallons of gasoline. The formation as



**B-24s take off en route to Ploesti as part of Operation Tidal Wave.**

a whole carried 311 tons of bombs, mostly of 1,000 and 500 pounds, with a sprinkling of incendiaries. They flew in route formation, boxes of six aircraft in two V formations of three. At low altitude, they passed the island of Corfu then headed northeast toward Albania and Yugoslavia.

Things began to go very wrong en route.

In the lead formation, one aircraft inexplicably went into a series of climbs and dives that led to its plunge into the sea. An accompanying aircraft departed the formation to look for survivors and was later unable to rejoin the mission.

In many accounts, the crashed *Wingo-Wango* is reputed to have carried the lead navigator for the mission, but Col. Keith K. Compton, 376th Bomb Group commander, later refuted this. Compton asserted that his aircraft, *Teggie Ann*, was in the lead, and its navigator, Capt. Harold Wicklund (who had flown on the first Ploesti raid) was lead navigator.

Ten other aircraft aborted, and the remaining aircraft faced 9,000-foot mountain ranges topped with clouds. All five groups crossed at about 11,000 feet, but began to separate because the two lead groups (376th BG and 93rd BG) used higher power settings, causing a major variance in speed.

As each group passed over the Balkan Mountains they descended rapidly, but the goal of a solid wave of five groups

approaching seven targets at once was no longer possible.

The groups might have been reformed into a single unit had they not maintained the prescribed radio silence, unaware that the Germans had already concluded that the target was Ploesti.

All five groups reached Pitesti, 65 miles from Ploesti. From Pitesti, the 389th BG departed for an attack on its target at Campina. Halfway to the next waypoint at Floresti, Compton was monitoring the navigation closely—too closely—with Ent in the jump seat. Compton mistook the small town of Targoviste as Floresti and turned the 376th southeast on a heading to Bucharest.

Lt. Col. Addison E. Baker, leading the 93rd, turned with the 376th.

Chaos was in the making, even though some now broke radio silence to call attention to the mistake.

The turn plunged the two groups directly into the holocaust of Gerstenberg's anti-aircraft fire, but took them 40 miles from where the Messerschmitts were waiting.

Recognizing the error, Baker turned 90 degrees to lead the 93rd toward Ploesti, while Compton continued for a time toward Bucharest.

In the German fighter command headquarters, the ad hoc maneuvers were being watched and were misinterpreted as a masterpiece of strategy—a feint at Bucharest while the main force hit Ploesti.

Aboard *Hell's Wench*, with copilot Jerstad—who had already flown far more than a full tour from Great Britain—Baker led the 93rd into a black maelstrom containing a fury of 88 mm shells, barrage balloon cables laced with bomblets, and towering chimneys.

*Hell's Wench* took so many hits that Baker had to jettison his bombs to stay airborne. His formation, taking heavy losses as it bombed, turned the Columbia Aquila refinery into a mass of smoke and flames. Once through the inferno, Baker climbed high enough for some of his crew to bail out before *Hell's Wench* gave out and plunged to the ground. No one survived, but Baker and Jerstad were posthumously awarded the Medal of Honor for pressing on in the face of unimaginable fire and for the effort to save their crew.

Two elements of the 93rd, led by two future Air Force leaders Maj. George S.

Brown (later Chief of Staff) in *Queenie* and Maj. Ramsay D. Potts in *The Duchess*, attacked the Astra Romana, Unirea Orion, and Columbia Aquila refineries on the south side of the city.

Attacking at 300 feet or less, 11 aircraft from the 93rd were lost in the target area.

In the lead group, Ent considered the anti-aircraft fire to be too intense to penetrate to the 376th's target, the Romana Americana refinery, and he told Compton to order an attack on "targets of opportunity."

For most of the 376th this turned out to be an attack from the east on Campina, the 389th's target. Five bombers plunged into the inferno to strike the Concordia Vega refinery.

### All Crews to Ploesti

In the meantime, Col. John R. Kane, 98th BG commander, and Col. Leon W. Johnson, 44th BG commander, reached Floresti and headed to their assigned targets—Asta Romana for the 98th, Columbia Aquila for the 44th. By now the defense reaction was at its peak, and the 98th and 44th also faced the low-level hazard of the delayed action bombs dropped by the 93rd and the horrendous explosions of the oil-filled storage tanks.

Kane knew the importance of the mission. He had told his bomb group that all crews were going to Ploesti, regardless of the number of missions they had already flown. "It would take an entire army a year to fight its way up here and smash this target," Kane told them. "We are going to do it in a couple of minutes with less than 2,000 men."

The attack of the two bomb groups paralleled the track of Gerstenberg's flak train, where the false sides of the cars disappeared to reveal a mix of batteries firing at the 98th on the left and 44th on the right, all flying 50 feet or less above the ground.

The B-24 gunners responded immediately, damaging the engine and killing enemy gunners.

Taking hits en route, the two groups flew into a pitch-black inferno filled with bursting flak, barrage balloons, and towering smokestacks. Over the target, aircraft were passing in every direction over and under each other, and once again the Germans marveled at the precise execution of what they believed to be an intricate American plan.

In the midst of the anti-aircraft fire and exploding bombs, some damaged aircraft plunged to the ground while oth-



**A B-24 flies low over "Target White 4," the Astra Romana refinery.**

ers, fatally wounded, flew on to attempt a forced landing in the countryside. Losses were heavy.

Both Kane and Johnson were awarded the Medal of Honor for their heroic leadership. Neither man could have been criticized for diverting to an alternate target, given the flames and smoke boiling up from their assigned tasks. Their Liberators lunged ahead, dropping their bombs on the coveted target, their 50-caliber machine guns firing to suppress the enemy gunners or ignite storage facilities.

Twenty-one of the 44th's 37 aircraft had been assigned to Lt. Col. James T. Posey for an attack on the Creditul Minier refinery south of Ploesti. The flak concentrations there had already decimated Baker's 93rd BG, and immediately poured an avalanche of fire into Posey's 44th.

The B-24s, some flying so low that their antennae were grass stained, took hits, but their 1,000-pound bombs demolished the target and they suffered no losses over the target.

The 389th BG was equally successful against the Steaua Romana refinery northwest of Ploesti. All 29 B-24s, led by Col. Jack Wood, made an attack just as they had practiced back at Benghazi, on the correct course and altitude, enabling the bombardiers to pick out their exact aiming points. Four aircraft were lost over the target, which was so damaged that it did not resume production during the war.

Twenty-two-year-old 2nd Lt. Lloyd H. Hughes was in the second wave of the 389th B-24s, screaming in to attack at less than 30 feet above the ground. His aircraft suffered numerous hits,

puncturing his wing tanks and sending a vaporous stream of gasoline behind him. Hughes pressed on, waiting until his bombardier, 2nd Lt. John McLoughlin, dropped the bombs. The aircraft was ignited by flames from the target. The pilot crashed into a riverbed while attempting an emergency landing. Hughes and six of his crew were killed, but McLoughlin and two gunners, SSgt. Thomas Hoff and SSgt. Edmund Smith, survived. Hughes received the fifth Medal of Honor awarded for the mission.

### **Even More Heroes**

Another gunner, SSgt. Zerrill Steen, was a fighting survivor. After his B-24 had crashed, killing the rest of his crew, Steen remained at his post, firing his 50-calibers at the enemy until the ammunition was exhausted. Only then did he break out of his turret and climb to relative safety. He was awarded a Distinguished Service Cross while still in captivity.

In the chaos, individual groups of battered B-24s were forced to fight off the attacking German and Romanian fighters.

More than half the B-24s fortunate enough to survive the attack were damaged, some critically so. They came together in small groups for their journey home, although some were forced to seek refuge in Turkey. The wounded forma-

tions often included aircraft with one or more engines out—perfect targets for the German, Romanian, and Bulgarian fighters stalking them.

In the end, 92 airplanes, many of them badly damaged, reached Benghazi. Nineteen landed at other Allied fields, seven were interned in Turkey, and three were shot down by German fighters, crashing at sea. In the final report, 54 airplanes were lost, of which all but 13 were lost in action.

Fully 30 percent of the airmen didn't make it home that day: Of the original 1,765 airmen who went airborne for the raid, 532 were either dead, prisoners, missing, or interned.

While the damage to the refineries was severe, the German ability to repair the facilities was underestimated.

Gerstenberg used reserve capacity and forced labor to quickly restore Ploesti to its full production. He also obtained reinforcements, knowing that the Americans would return.

When Fifteenth Air Force was ensconced in Italy, the bombers did return, beginning in April 1944. Now, however, the oil fields were within fighter range. More than 5,400 heavy bomber sorties, along with almost 4,000 fighter sorties, were flown against Ploesti, reducing it to rubble.

The missions ceased when the Soviet Army moved into the area in August 1944. All told, the AAF had expended more than 350 aircraft in the series of strikes on Ploesti. More than 2,800 airmen were injured or killed in the effort to shut down the Nazi fuel source.

The Romanians themselves were disillusioned by the occupying Germans and fearful of the Russians. As the war was grinding to a close, Lt. Col. James A. Gunn, the senior prisoner of war in Bucharest, made a two-hour flight to Foggia, Italy, in the tiny radio compartment of a specially marked Messerschmitt Bf-109G. The 109 was piloted by a 56-victory Romanian ace, Capt. Constantin Cantacuzino.

There, Gunn made arrangements for Operation Reunion, the evacuation of 1,271 Allied prisoners from Romania to Italy. They were brought home by a fleet of B-17s—the best possible finale to a monumental effort. ■

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