



# LOW & LETHAL

## THE PLOESTI EXPERIMENT



### Skill, Luck, and an Indestructable Liberator Let Them Survive

BY CHRIS BUCHOLTZ

**Lt. Charles E. Hughes** could never sleep before missions. He paced outside his tent in the darkness of the desert, restless and contemplative. “I had too much on my mind,” he said. “I was in charge of bringing my men back and I wanted to make sure I had a plan to do that.”

The 22-year-old Californian knew the pattern: He’d already flown three missions as copilot to targets in France and Germany. Then, the 44th Bomb Group had suddenly and surprisingly ceased operations, started low-level practice missions, and shipped out to North Africa. In Libya, he’d been promoted to pilot and gone on six more shows to targets in Italy.

#### Enemy Oil Was the Target

This morning, August 1, 1943 was different. This was the big one: The Army Air Force planned to knock the oil complex in Ploesti, Romania out of the war with the first low-altitude strike ever attempted by heavy bombers. Bringing his crew back from this mission would require all his skill, and a large helping of luck.

Over one-third of the petroleum products used by the Third Reich were produced in Romania, and Ploesti was its biggest center of production. With Romania a German puppet state, the output of the Romanian oil fields flowed directly into the Wehrmacht’s war machine. Col. Jacob Smart, a member of USAAF chief Gen. Henry “Hap” Arnold’s advisory council, had seen A-20s placing bombs directly on targets in low-level attacks. If A-20s could do it, Smart wondered, why couldn’t B-24s do the same thing? This question set in motion planning for what became known as Operation Tidal Wave.

Hughes’s 44th BG, known as the Flying Eightballs, and its sister groups, the 93rd and 389th, travelled to Libya to join the Ninth Air Force’s 98th and 376th Bomb Groups already



**Above:** Charles A. Hughes in the copilot’s seat of a 44th Bomb Group B-24 during the beginning of his tour. Hughes completed 28 missions over the course of 28 months thanks to his long odyssey following Operation Tidal Wave. (Photo via Sandy Symanovich)

**Opposite:** The 2nd wave of B-24s skim the smoke stacks of the Columbia Aquila refinery with the cracking plant towers in view and the first wave of B-24s visible ahead. (Photo via Stan Piet)

**Top:** A full load of ten 500-pounders was the standard high-altitude capacity for the B-24. (Photo via Stan Piet)



Hughes (center, front row) poses with his 66th Bomb Squadron crew in front of one of the squadron's B-24Ds. The crew was assigned *Flossie Flirt*, B-24D 42-40777, the morning of the raid; copilot Spencer Hunn thought, optimistically, that the three sevens meant she was a lucky plane. (Photo via Sandy Symanovich)

based in North Africa. Over the desert, they mixed low-level practice missions with raids on hostile targets. Rumors abounded about the reasons for the zero-altitude rehearsals until the brass briefed the groups on July 31 of their target for the very next day. The plan, Hughes said, left him with concerns that kept him up all night.

"They told us the Germans would never expect an attack," Hughes said. "They told us they had almost no anti-aircraft defenses in

Ploesti, and that we'd be so low that any guns they had couldn't depress enough to fire at us."

### They Were Waiting for Us

However, Ploesti had already been attacked by a high-level raid of 13 B-24s in June 1942, which convinced the Germans to significantly beef up its air defenses. Ploesti now bristled with flak: 240 88mm and 105mm guns, 320 20mm and 37mm guns, hundreds of machine guns, dozens of barrage balloons, and as many as 400 fighters in position to intercept the raid. Contrary to American estimates, Ploesti was the third or fourth best-defended target in Europe at the time, even more heavily defended than Berlin. And estimates were all the USAAF had, since reconnaissance flights over the city were forbidden lest the Germans anticipate an attack.

If that wasn't bad enough, Smart's attack plan placed crushing pressures on the crews. Perfection was paramount to the mission's success. The 180 bombers would fly 1,000 miles with no fighter escort, heading north over the Mediterranean before turning northeast as they passed the island of Corfu, then overflying the 15,000-foot mountains of Albania and Yugoslavia before dropping to low level over Bulgaria to evade radar. Entering Romanian airspace, the bombers would turn east at the city of Floresti; then,

**"THEY TOLD US THEY HAD ALMOST NO ANTI-AIRCRAFT DEFENSES IN PLOESTI, AND THAT WE'D BE SO LOW THAT ANY GUNS THEY HAD COULDN'T DEPRESS ENOUGH TO FIRE AT US."**

Several B-24Ds diverted to Turkey, where they were interned, and a few were repaired and pressed into Turkish service. This was not the case for *Flossie Flirt*, which was cannibalized for parts and scrapped. (Photo via M. Haluk Sevel)



just after speeding over Pitesti, each group would make a separate turn to the right to attack seven separate targets before retiring to the southwest. The 44th BG's 66th and 67th squadrons were assigned target "White V," the Columbia Aquila refinery. Bombs would be dropped from an altitude of no higher than 100 feet. All targets would be hit simultaneously. Navigation and timing were critical—different groups' bombs had differently timed fuses to minimize smoke that would obscure the targets for the following waves of B-24s.

Hughes rose at 2:30 a.m. with a knot in the pit of his stomach—not just from worry, but also from the dysentery that he, and many other Eightballers, had contracted since coming to the desert. The heat was miserable too, even at dawn. The lavish breakfast laid out for the crews, featuring real eggs, did little to lift his spirits. He was also concerned about flying an unfamiliar B-24 on this mission. Wear caused by the fine desert sand had his regular aircraft down for maintenance, so he and his crew were assigned a Liberator called *Flossie Flirt*, which sported the last six digits of its serial number, 42-40777, in yellow on its two horizontal stabilizers.

"As we were boarding, Spencer Hunn, my copilot, said the three sevens at the end of the serial must mean it was a lucky plane," Hughes said. Loaded with a bomb bay fuel tank and six 500-pound bombs, *Flossie Flirt* and Hughes's crew were aloft by 4:45 a.m., headed north 3,000 feet above the placid Mediterranean.

### The Plan Went to Hell

All was not placid with Hughes. At several points in the flight, he left the wheel for dysentery relief trips to *Flossie Flirt's* bomb bay. Unknown to Hughes and his crew, the mission was already unraveling; an argument between unit commanders meant that the 376th and 93rd BGs were using higher power settings and were pulling away from the other three groups. The B-24s of the 44th, unaware of this, droned on for several hours before spotting the coast of Albania and the ominous Pindus Mountains beyond it, shrouded in cumulus clouds to 17,000 feet. The 44th, 389th, and 98th BGs climbed to 12,000 feet and flew through the clouds, but the 376th and 93rd BGs had reached the front earlier, climbed high over the top of the clouds, and dived back down. Their head start, combined with prevailing winds at higher altitude, put the



Above: B-24D crews of the 376th BG start manning their aircraft the morning of the Ploesti raid. (Photo via Jack Cook)



Right: A crewman cleans the Plexiglas of the B-24D of the 512th BS the night before the Ploesti mission. (Photo via Jack Cook)

Below: Crewmen service B-24Ds of the 514th BS before the mission. In the background is B-24D *Wash's Tub*, which survived the raid. (Photo via Jack Cook)



376th and 93rd 60 miles ahead of the other three groups.

*Flossie Flirt* emerged from the clouds at 150-mph. Hughes watched the mountains turn into foothills, then into the Bulgarian plains. Following the lead ship, the B-24s dropped to the deck while at the same time shifting into combat formation.

*Flossie Flirt* was in the last wave of the 44th BG, with *Forky II* and *Wing Dinger* to the right, and *Lady Luck*, the spare, to the left. The Liberators gained speed; gunners scanned the sky for fighters, and tension on the flight deck increased. "It wasn't easy staying in formation at low altitude," said Hughes. "The wing on the B-24 was like a sailplane's at that height and any updrafts would shove you upward, which was very concerning when you were in formation."

Hughes was surprised to see Romanian farmers at work in their fields, waving and smiling at them, perhaps unaware of the Liberators' intentions. The group spotted Floresti, their first initial point (IP), then lined up Pitesti for the run to the target. About 50 miles from the target, flak began bursting near the group. It was inaccurate—the height of the group had surprised the defenders. But as they

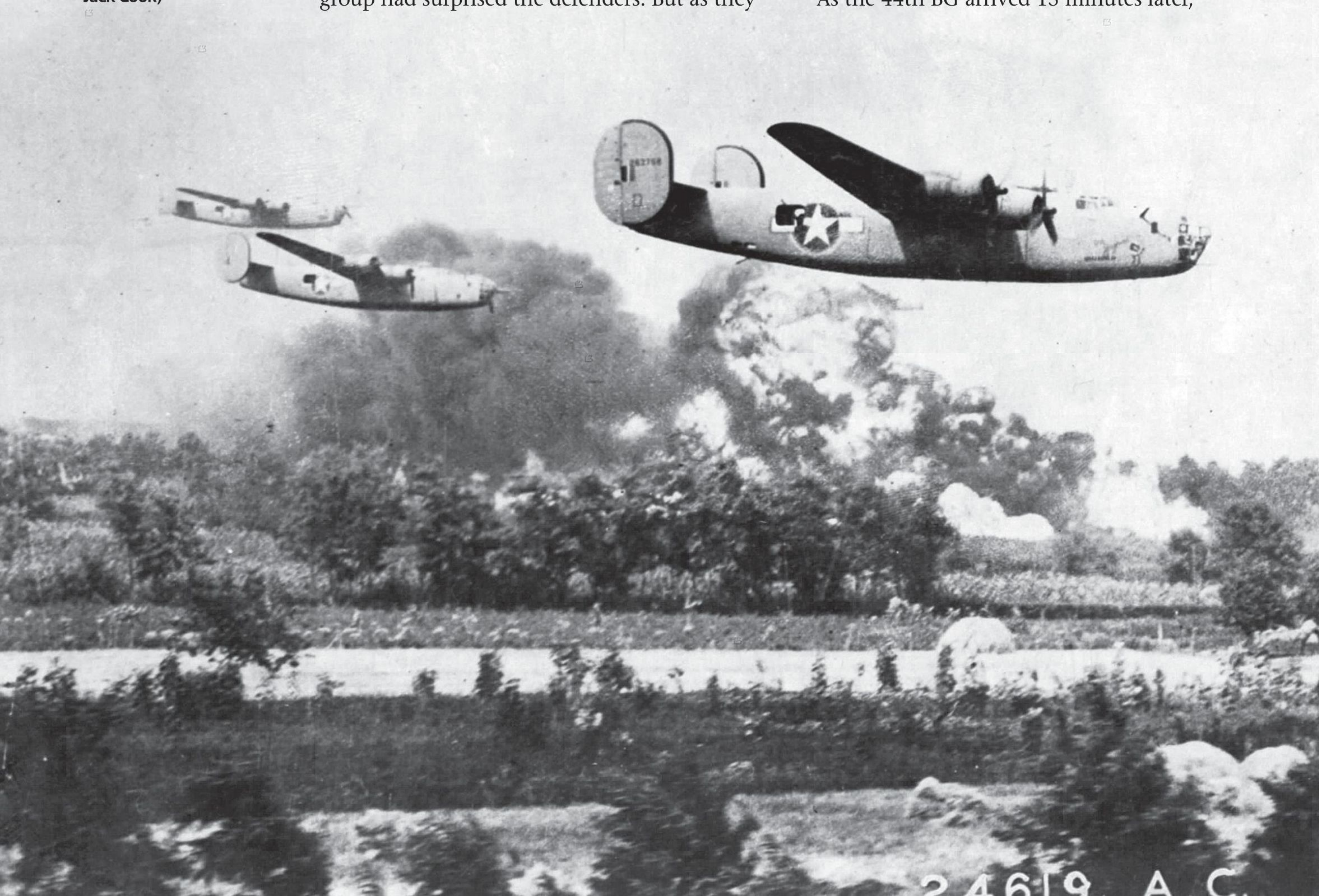
neared the city limits, it was clear something was wrong. A pall of oily, black smoke hung over the target area and the sky was filled with heavy-caliber flak bursts. The element of surprise was gone.

### **They Knew Where We Were**

Observers on the Aegean coast had reported the formation, and German radar had picked up the 378th and 93rd during their climb above the weather. The Germans assumed their target was either Bucharest or Ploesti, and put their air defenses on high alert. Then, the 378th and 93rd had mistaken Floresti for Pitesti, and following the wrong railway line, had turned south too early. They realized their mistake only when they spotted the spires of Bucharest. Their mistaken feint toward the Romanian capitol served to misdirect the majority of the enemy fighters scrambled that morning. Just the same, turning north, they waded into a morass of flak, barrage balloons, and fighters. As the plan broke down, bombers hit whatever targets presented themselves; the 93rd blanketed the Astra Romana, Unirea Orian, and Columbia Aquila facilities with bombs, losing 11 planes in the process.

As the 44th BG arrived 15 minutes later,

B-24Ds of the 514th BS pass through the explosion of the refinery. (Photo via Jack Cook)



24619 A C



B-24D *The Sandman* of the 345th BS flown by 1st Lt. Bob Sternfels passing over the blazing refinery during the attack. (Photo via Jack Cook)

IT WAS LIKE FLYING INTO THE MOUTH OF HELL...THE SMOKE OBSCURED SMOKESTACKS AND BALLOON CABLES, AND THERE WERE GUNS WITHIN THE REFINERY GROUNDS ITSELF. TRACERS WERE COMING STRAIGHT AT US.

still sticking to their part of the plan, Hughes's formation went to full throttle at 50 feet and headed into the target area. Ahead of their olive drab Liberators, Columbia Aquila loomed, already aflame, with roiling, oily plumes of smoke blotting out the sky, punctuated by the detonation of delayed-action bombs. To his surprise, closing in from Hughes's left was the 389th and its desert-pink Liberators, which had made its own wrong turn to attack the Campina refinery to the north of the city and was now trying to regroup. The two groups nearly merged in what could have been a deadly aerial traffic jam before the 389th turned to the north.

To Hughes's right, not more than 150 feet below, ran a train, whose boxcars suddenly dropped their false sides to reveal 88mm flak guns. As the flak began to fly, the B-24 gunners quickly responded, raking the gun crews and disabling the locomotive. Hughes's gunners shot it out with other gunners in hidden positions—flak towers and sandbagged emplacements—as he lined up the B-24 for its bomb run through a tunnel of pitch-black smoke.

"It was like flying into the mouth of hell," Hughes recalled. "There were more hazards

than you could deal with all at once. The smoke obscured smokestacks and balloon cables, and there were guns within the refinery grounds itself. Tracers were coming straight at us it seemed, and crisscrossing in front of the nose. I crouched down in my seat, as if that would protect me."

### The Losses Mounted

A large-caliber flak burst staggered *Wing Dinger*; it slid down and to the left, but in an impressive feat of airmanship, Capt. George Winger recovered and slid below *Forky II* and *Flossie Flirt*, then up to the left, to take position on Hughes's left wing. *Forky II*, flown by Capt. Rowland Gentry (Hughes's pilot on his first three missions), closed up on Hughes's right as they reached the target. Updrafts from the fires shook the bombers, tossing the waist gunners to the deck; when bombardier Edward Goodnow released the bombs, *Flossie Flirt* sprang up 50 feet, and Hughes had to force it back down.

"We went in with three planes and dropped our bombs," said Hughes, "but when we came out we were by ourselves." The already riddled *Forky II* had been set upon by three fighters, and almost immediately Gentry attempted to

Seen here returning from its 105th and last mission in April 1945, is B-24D-CO #41-11766 *Chug-a-Lug* of the 345th BS, 98th BG. Surviving Operation Tidal Wave on August 31, 1943, *Chug-a-Lug* suffered a barrage balloon cable hit to its right wing, but would revisit Ploesti two more times in its storied career. (Photo via Stan Piet)



set the nearly uncontrollable Liberator down in a cornfield. Only one crewman escaped the exploding bomber. *Wing Dinger* emerged from the target with a growing sheet of flame stretching back from the bomb bay; the flak burst had punctured her Tokyo tanks, and the inferno at Columbia Aquila had ignited the fuel streaming from the aircraft's belly. Winger pulled the plane up to 1,000 feet and rang the bailout bell. The two waist gunners were able to escape before Winger lost control. Falling into a hammerhead stall and trailing fire, *Wing Dinger* exploded even before hitting the ground.

Now, emerging from the smoke over Columbia Aquila, it was *Flossie Flirt's* turn to become a flak magnet. "It sounded like someone was throwing shovelfuls of gravel against the airplane," said Hughes. "It was the light stuff, 20mm and small arms fire, and it was coming from everywhere. Then we were hit several times in the wings by 88s, but we were so low the shells didn't have time to arm themselves. They were punching holes in the wings bigger than basketballs, but they weren't going off." The bomber hugged the earth, skimming over the grounds of the barracks, from which soldiers ran out firing rifles, machine guns, and even pistols. Waist gunners Stanley Nalipa and Robert Albine, and top turret gunner Howard Lucas turned them into a bloody mess with a lethal spray of .50-caliber rounds.

Eager for the covering fire of another bomber, Hughes tagged onto the tail of a B-24, only to see it crash ahead of him. Spotting a second Liberator, he steered toward it, and it too suddenly banked, slowed, and smashed into the ground. Suddenly, tracers began whipping past the cockpit. Hughes climbed a little and skidded the B-24 to the left to throw off the aim of a Romanian IAR-80, whose pilot had bravely guided his yellow-nosed fighter into the storm of flak in pursuit of the bomber. Tail gunner Sheldon Blagg's .50-caliber guns reverberated through the bomber as he tried to land a hit on the elusive fighter. "The Romanian fighter seemed to be trying to get below us, away from our guns, so I kept inching closer and closer to the ground," Hughes said. Suddenly, Blagg whooped, "He just hit the ground like a ton of bricks!"

### **A Wounded Warrior Escapes the Fray**

*Flossie Flirt* was still in a low-level shooting gallery. Flak peppered the wings, and a round

## HUGHES REALIZED THAT A RETURN TO LIBYA WAS IMPOSSIBLE—THERE SIMPLY WASN'T ENOUGH FUEL.

exploded in the waist, wounding Nalipa and Albine. Another 20mm round shattered the top of Lucas's turret, but somehow left him unharmed. All but two strands of the rudder cables had been cut, and there was a huge hole in the left stabilizer. Then, one of the waist gunners yelled, "Skipper! There's something dripping out of our wings!"

"I looked and saw gobs of black stuff oozing out, then dropping away in the slipstream," said Hughes. "For a minute, I was dumbfounded. I couldn't imagine what it was. Then it hit me—the self-sealing wing tanks had been so shot apart that they were falling out of flak holes in the wings. That scared me."

Hughes realized that a return to Libya was impossible—there simply wasn't enough fuel. He set course for neutral Turkey. Spotting a cloud, Hughes ducked into it. He sent Hunn back to assess the damage and to see how the rest of the crew was doing. Hunn, accustomed to flying in the cockpit, found the bomb bay and waist areas remarkably bright. Then he realized that the brilliant lighting was the sun beaming in through hundreds of flak and bullet holes in *Flossie Flirt's* thoroughly perforated skin.

Hughes set the bomber on a southeastern course, crossing southern Romania and setting down on the airfield at Çorlu, a town in the European part of Turkey, west of Istanbul. They weren't totally alone: Seven aircraft diverted to Turkey following the raid, joining four others from the April 1942 mission. Six of these were repaired and put into service by the Turkish Air Force. *Flossie Flirt* was not among them.

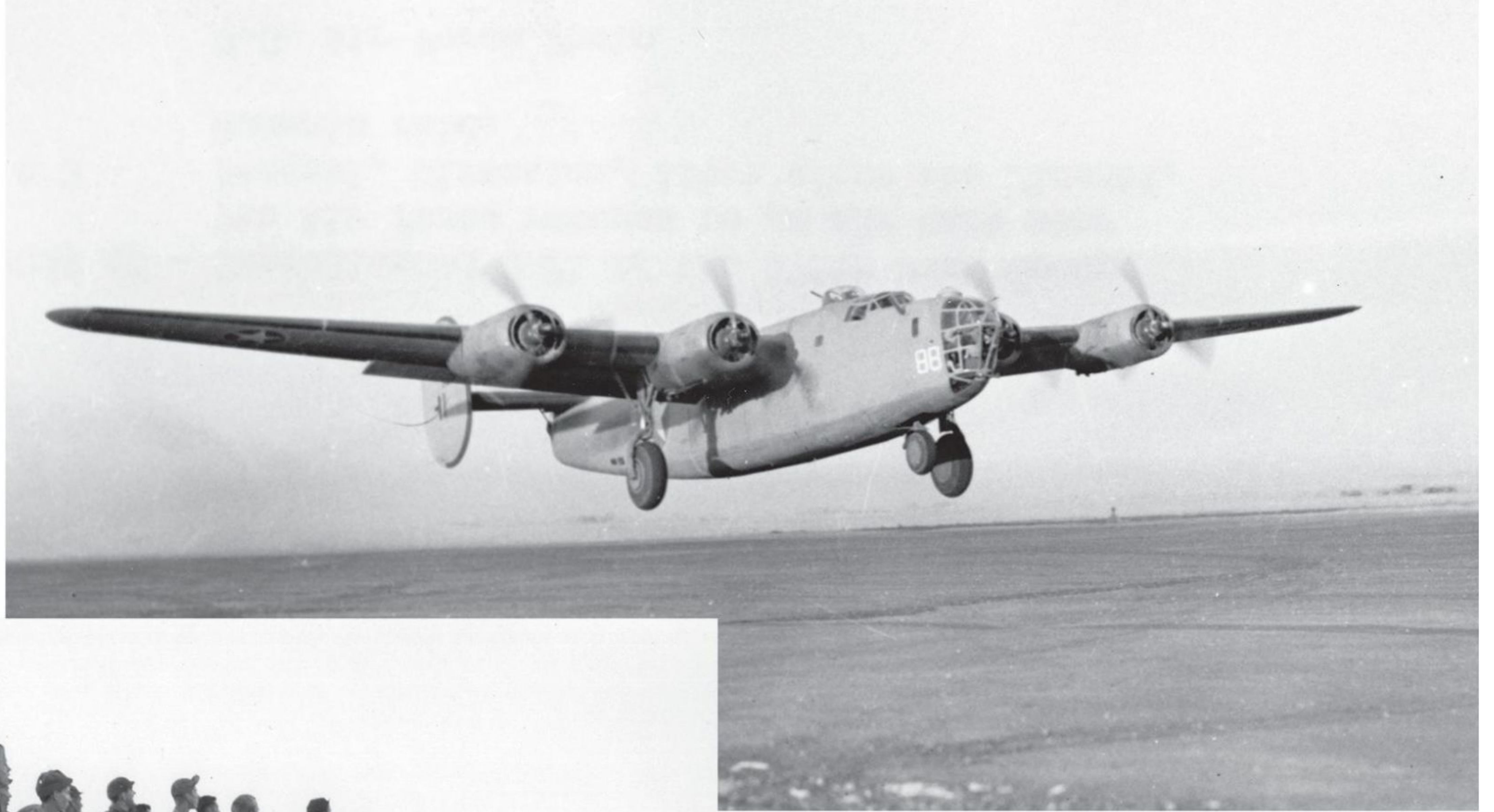
### **Turkish Internment and a Run for Home**

Safely on Turkish soil, the crew was interned—the officers in one town, the enlisted men in another. As a term of their internment, the crew each signed a note stating they were on parole duty, meaning that they could not attempt to leave the country. After six weeks in captivity, the Army Air Force Attaché passed a message to Hughes: Be at the train station in civilian clothes tomorrow night. They were led to a train and sent to the Turkish port of Izmir, where the enlisted men in the crew joined them, having been transported to Izmir by



## LOW & LETHAL

An unnamed B-24D from the 376th BG lands at its Benghazi, Libya base after Operation Tidal Wave. The five bomb groups involved undertook several low-level rehearsal missions over the local desert, and shorter raids into Italy to prepare for their daring oil refinery targets. (Photo via Stan Piet)



The ground crew of the 376th BG awaits the return of their unit's B-24Ds. (Photo via Jack Cook)

boat. Along with four young Greek men who had volunteered to fight the Germans, the airmen set out into the night aboard a fishing boat for Cyprus and freedom.

After several hours, the boat captain appeared at the hold's hatch, looking alarmed, and signaled the passengers to be quiet. An Italian patrol boat had intercepted the fisherman and was maneuvering to board his boat. Hughes soon heard the sounds of boots pacing across the deck, and a conversation in Italian between the fisherman and the Italian sailors. Incredibly, after 10 tense minutes, the Italians climbed back on their boat, cast off, and motored away. "They never once bothered to look in the hold," Hughes said. "They could have captured quite a bag if they'd lifted that hatch."

It took two more months for Hughes to travel from Cyprus to North Africa and finally back to the U.K., where the 44th BG had gone back into business as a high-altitude heavy bomber outfit. After finally recovering from dysentery, he returned to flying and eventually became the commander of the 66th Bomb Squadron, piloting six other B-24s, including *Hellza Droppin'* on his last mission, on April 18, 1945. "I eventually flew 28 missions, spaced

over 28 months," Hughes said, smiling.

When WW II ended, Hughes earned his degree at Stanford University, then rejoined the Army Air Force, serving on the Research and Development Board at the Pentagon, then in research into ballistic missiles in California and at Andrews Air Force Base. His last tour was as commander of the Air Force Satellite Test Center in Sunnyvale, California. Hughes passed away in 2010.

Others on Hughes's crew were not so lucky. Bombardier Edward Goodnow was lost January 21, 1944, after bombs-away over a V-1 site at Escalles-su-Burchy; his B-24D, *Queen Marlene*, fell to fighters. Stanley Nalipa went down less than a month later, on February 20, 1944. His fellow waist gunner, Robert Albine, was killed in action on July 7, 1944, when B-24J *Big Fat Butterfly* crashed near Charleroi, Belgium on its way home from Aschersleben and Helmstedt.

### A Wasted Effort?

And what of the target, Ploesti? After the mission, the Allies estimated a reduction in refining capacity of 40 percent, but this was unrealistic—several of the refineries in the area were producing at below capacity, and they simply increased capacity while damage to other facilities was repaired. Hughes's target, Columbia Aquila, which had claimed six of the sixteen 44th BG Liberators sent to attack it, was at the time of the mission shut down for repairs and modernization. It would not be back online for 11 months. Some facilities were knocked out for good, but within a few weeks the net output of fuel from Ploesti was greater than before the raid. Thirty-one more major operations—at a cost of 325 more allied aircraft—would be flown against Ploesti to reduce its capacity before the Soviets overran the city on August 30, 1944. †