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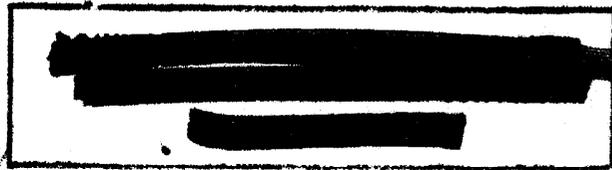
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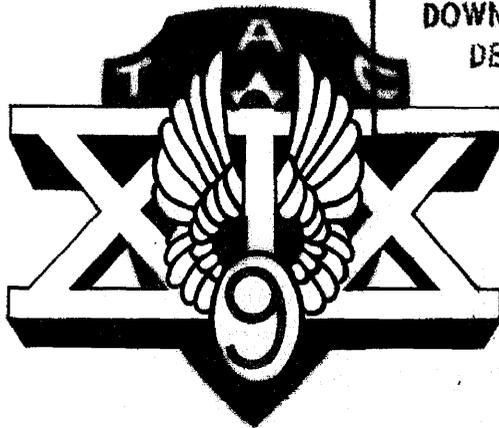
# AIR COMMAND

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PRE-INVASION DICING OF FRENCH BEACHES BY LT. ALBERT LANKER  
OF 31ST PHOTO RECONNAISSANCE SQUADRON,  
10TH PHOTO GROUP, RECONNAISSANCE

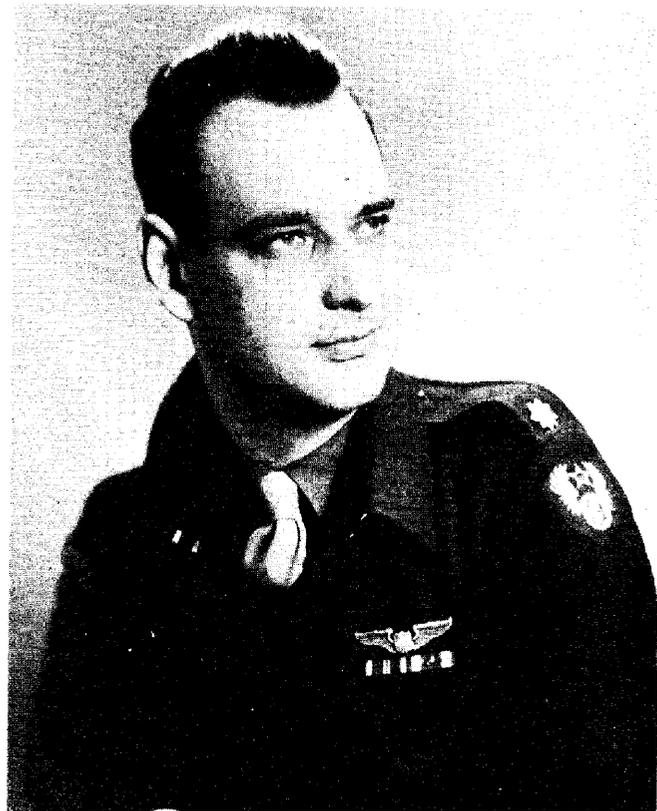


COLONEL WILLIAM B. REED

Now Executive to the Deputy  
Commanding General for Operations  
Hq., Ninth Air Force, Col. Reed  
commanded the 10th Photo Group  
from 9 September 1943 to 20 June  
1944.

LT. COL. (now COLONEL)  
RUSSELL A. BERG

Present 10th Photo Group Com-  
mander and former Executive  
Officer of the 67th Tactical Re-  
connaissance Group, Col. Berg  
assumed command on 20 June 1944  
upon Col. Reed's departure.



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PART I

C H R O N I C L E O F O P E R A T I O N S

A. BY WAY OF BACKGROUND

For years before the invasion of FRANCE, Allied reconnaissance from British bases had been extremely active and productive, with emphasis on long-range, high-altitude operations for basic cover, mapping, aerial target location, bomb damage assessment and strategic planning. Not until the landing of armies on the Continent became a definite purpose and plan was there need for true tactical reconnaissance -- the type which tells a tactical air force and ground army what they need to know concerning the immediate enemy in order to advance and destroy him.

To meet this need the US choices were the 67th Tactical Reconnaissance Group, which had been in ENGLAND for months with little to do, and the 10th Photo Group, Rcn, which was still in the UNITED STATES. In late 1943 and early 1944, the 67th was reorganized, re-equipped with P-51s (F-6s) in place of its A-20s and ancient Spitfires, and intensively trained and operated by Ninth Air Force's IX Fighter Command, parent and predecessor of the IX and XIX Tactical Air Commands. Meanwhile, the 10th Photo Group, with its P-38s (F-5s), was brought from the UNITED STATES and went into operation on 25 February 1944 -- a little more than three months before D-day -- first under Ninth Air Force directly and later under its XIX TAC.

During operations from ENGLAND before the invasion, this Group consisted entirely of photographic reconnaissance Squadrons -- the 30th, 31st, 33rd and 34th for daylight work, plus the new-born 155th for night photography.

With the invasion and assumption of cooperation with the Third US Army under XIX Tactical Air Command, the Group's function and composition were drastically changed. Needed now was a versatile organization capable not only of day and night photography but also of extensive tactical reconnaissance in close cooperation with fighter-bombers, artillery and armored and infantry units.

The result is the Group as constituted today (December 31, 1944): two Tactical Reconnaissance Squadrons (the 12th and 15th) from the 67th Group, one Photographic Reconnaissance Squadron (the 31st) and one Night Photo Squadron (the 155th). Until 6 October the Group also had a second daylight photo squadron (the 34th).

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LOADING THE CAMERAS OF AN F-5B

Of the four photographic reconnaissance squadrons which comprised the 10th Photo Group in ENGLAND, one (the 30th) is now with IX Tactical Air Command and First US Army, one (the 31st) is with this Command and Third Army, the 33rd is with XXIX TAC and Ninth Army, and the fourth (the 34th) is with XII TAC of First Tactical Air Force, working with the Seventh US and First French Armies. Thus the Group's old photo squadrons now are covering the entire US portion of the Western Front.

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B. PRE-INVASION PERIOD1. The Ceiling Drops: "Dicing" the Beaches

When the 10th Photo Group, Rcn, began operations at CHALGROVE, near OXFORD, in February 1944, its pilots were told that at times they "might have to operate as low as 29,000 feet." Most of the photographic reconnaissance over heavily defended German-occupied EUROPE was being done from altitudes of 30,000 feet or more.

But many lessons had to be learned and others unlearned as it became apparent that high-altitude photographs would supply only a part of the need for information concerning the enemy's beach defenses and for tactical use in expanding the beachheads. The 10th Photo Group was destined, before many weeks, to be operating almost literally "from the ground up."

Especially needed by 21st Army Group were low-altitude photographs showing the barriers, mines and other beach defenses in detail. Such an undertaking had previously been regarded as suicidal because of the bristling flak defenses which made these French beaches one of the most strongly defended areas in the world, but at 10th Photo Group it was felt that the operation could be carried out by employing to the full the high speed of the P-38 aircraft. The result was a series of "dicing" missions which yielded photographs invaluable for planning the beach assault. One of the 11 pilots participating was lost in this dangerous "dicing with death".

To 2nd Lt. (now 1st Lt.) Albert Lanker\* of the 31st Photo Reconnaissance Squadron went the honor of being the first Group pilot to fly a minimum-altitude mission in enemy territory. The Squadron historian records that Lt. Lanker admitted being nervous and apprehensive when he took off in his P-38 (F-5), modified to carry a 12-inch nose camera, at 1711 hours on 6 May. He was 50 feet off the ground at DUNGENESS, where he circled and shot across the Channel ten to fifteen feet above the whitecaps.

Near BERCK-SUR-MER he turned around a sand dune to lessen his possibilities as a target. (His pictures later showed the dune to be an enemy gun emplacement!)

\* Missing in action from a mission on 26 December 1944, to drop photographs to US troops at BASTOGNE, in the ARDENNES.

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Then, gaining speed in a short dive, he started his super-buzz of the coast. Here, he said, nervousness left him, and he began to enjoy himself immensely. During the four minutes his cameras were operating, he encountered five groups of workmen building defenses on the beach.

"I headed straight for every group just to watch 'em scatter and roll," the lieutenant said. "They were completely surprised -- didn't see me until I was almost on top of them."

Near the end of the run Lt. Lanker scaled a cliff, with his left wingtip six feet from its top. A rifleman on top of the cliff fired at him but his shots went wild.

The magnificent pictures which the pilot brought back showed beach defenses in great detail, and workmen ducking to escape the plane which must have seemed aimed straight for their heads.

But the next day, when 1st Lt. Fred F. Hayes, of the same squadron, undertook to dice another section of the coast, the hazards of this type of mission were tragically emphasized. The pilot was never heard from after leaving the English coast. However, Capt. (now Major) William D. Mitchell, of the 30th Squadron, who took off at the same time, successfully dived the coast from DUNKIRK, FRANCE, to NIEUPORT, BELGIUM.

On 19 May a second series of dicing missions was flown, this time over the destined invasion beaches of NORMANDY, from OUISTREHAM to ST. VAAST LA HOGUE. Three were flown successfully, by 1st Lt. (now Captain) Donald F. Thompson, of the 30th Photo Reconnaissance Squadron; 1st Lt. (now Captain) Rufus Woody, of the 31st; and 2nd Lt. (now 1st Lt.) Garland A. York, of the 34th. 1st Lt. Merritt G. Garner, of the 31st, (now a Major and Squadron Commander) was unable to take off with the rest of the flight because of brake trouble and by the time he reached his assigned area, from OUISTREHAM to TROUVILLE, the enemy had been alerted, putting up such intense and accurate ground fire that the mission could not be carried out.

On 20 May three more dicing sorties were flown, by 1st Lt. Joseph H. Smith of the 30th Squadron, 1st Lts. (now Captains) James M. Poole, Jr., and Robert Holbury, of the 31st; and 2nd Lt. (now 1st Lt.) Allen R. Keith, of the 34th. Near the end of his run, from FECAMP to HEUQUEVILLE, Lt. Keith hit a seagull, which crashed through the plexi-glass front of the pilot's compartment and was stopped only by the heavy bullet-proof glass, causing such "limited

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visibility" that the run could not be completed.

But by this time enough photographs had been accumulated to give Allied commanders an excellent closeup view of the beaches their men must cross.

This operational chronicle is not the place for reproduction of the many commendations and congratulations received, from Generals Eisenhower, Montgomery, Dempsey, Brereton, Strong, Air Chief Marshal Leigh-Mallory and others. The important thing was the fact, pointed out in a letter of commendation from the Commanding General of the First US Army Group, that the photographs would result in saving lives of Allied ground and naval personnel.

For the first time the Group's pilots knew the satisfaction that comes from close teamwork with the ground forces, the kind of teamwork that pays off in lives saved. From this time on, the 10th was a tactical outfit in the fullest sense of the word. "Tactical" comes from a word meaning to touch, and the Group's pilots had come about as close to touching the enemy as it is possible to get in a plane, some of these minimum-altitude missions having been flown at 25 feet.

The camera mount used consisted of a 12-inch focal length nose camera tilted downward at an angle of 10 degrees, and two 6-inch focal length oblique cameras, one on each side, aimed slightly forward from right angles to the line of flight, giving an uninterrupted coverage of more than 180 degrees.

For these outstanding achievements the 10th Photo Group, on 19 January 1945, received a Presidential unit citation which reads in part as follows:

"Employing specially modified equipment installed in unarmed P-38 type aircraft, the intrepid pilots of the 10th Photographic Reconnaissance Group gallantly undertook the most hazardous missions. Flying unarmed and unescorted and at an altitude as low as twenty-five feet, they fearlessly piloted their aircraft over the difficult photographic runs in the face of intense fire from some of the strongest anti-aircraft installations in Western Europe. Despite the great difficulties and dangers involved in the execution of these missions of the highest priority, the 10th Photographic Reconnaissance Group was successful in obtaining excellent photographs of coastal defenses from BLANKENBERGHE to DUNKERQUE and from LE TOUQUET to ST. VAAST LA HOUGUE. The extraordinary skill, fortitude, and gallant devotion to duty demonstrated by the airmen of the 10th Photographic Reconnaissance Group in the brilliant discharge of this exacting assignment reflects the highest credit upon the organization and are in keeping with the finest traditions of the Army Air Forces."

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## 2. Third Army-XIX TAC Cooperation Begins

Important and spectacular as were these dicing operations, they should not be allowed to overshadow the other reconnaissance activities of the pre-invasion period.

Immediately upon the arrival of Third US Army in ENGLAND in March 1944, it was given the task of planning an operation to secure the BRITTANY PENINSULA of FRANCE. This involved aerial reconnaissance, and plenty of it, to determine the condition of beaches and installations and to obtain basic photo cover for mapping and construction of terrain models.

At first all requests for cover had to be submitted by Third Army to First US Army Group, which passed them to Ninth Air Force, which in turn transmitted them to XIX Tactical Air Command. However, the A C of S, G-2, Third Army, insisted that all plans must be made to satisfy a fluid situation; if the plans would work in such a situation, he insisted, they would be satisfactory in a static one, but the reverse would not necessarily be true. Accordingly, as a result of a meeting held on 11 April, direct channels of communication between Third Army and XIX Tactical Air Command were authorized.

Thus it came about that teamwork in regard to reconnaissance began nearly four months before Third Army and XIX Tactical Air Command became operational as a ground-air team on 1 August 1944 and launched their drive across FRANCE.

Some of the requests for basic cover were met by obtaining prints of already existing photos taken by British or American pilots. Many up-to-date photographs were needed, however, especially pictures of the BRITTANY beaches, and some of these missions were flown by pilots of 10th Photo Group, Rcn. For training purposes, Third Army, on 28 April, requested gridded obliques taken in ENGLAND, and these were made by pilots of the 67th Tactical Reconnaissance Group.

To speed up the extraction of combat intelligence from aerial photographs, the Third Army's Photo Center on 22 May was moved from Army Headquarters to the airfield at CHALGROVE occupied by XIX TAC's 10th Photo Group, Rcn.

This proved a highly advantageous move, greatly expediting the most important individual job of the Photo Center during the planning phase in the United Kingdom -- the compilation and interpretation of all intelligence in the BRITTANY area and the publication of collated maps of 1 to

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50,000 and 1 to 25,000 scale.

As soon as missions were flown and films processed, the pictures could now be turned over directly to the Photo Center, enabling the photo interpretation teams to prepare their reports and plot data for the collated maps with a minimum of delay. At the close of the planning period in the UNITED KINGDOM, basic cover of the BRITTANY PENINSULA was practically complete and collated maps were being printed.

As events turned out, Third Army was able to pour into BRITTANY overland from NORMANDY instead of over the beaches, and much of the planning based on the possibility of a sea-borne assault was wasted. But the thorough job of reconnaissance and collation, and the resulting collated maps on 1 to 50,000 and 1 to 25,000 scale proved of great value in the BRITTANY campaign.

In the meantime, during the pre-invasion period, the IX TAC's 67th Tactical Reconnaissance Group was flying the brilliant missions which won it the following presidential citation:

"For outstanding performance in action against the enemy in the execution, over the LE HAVRE and STRAITS OF DOVER areas during the period 15 February to 20 March 1944, of the most extensive low-altitude oblique photographic assignment ever undertaken over enemy territory. This assignment, vital to preparation and execution of plans for invasion of the Continent, made it necessary to obtain a very large number of oblique photographs from the vulnerable altitude of 3,500 feet. Successful accomplishment of this mission required long flights, approximately twenty miles each, over heavily defended coastal areas; and because of the precise nature of the required photography, it was imperative that the pilots forego evasive action and fly straight, level, undeviating courses in spite of constant fire from a large number of predicted fire batteries and other antiaircraft installations concentrated throughout the area. By flying through such intense anti-aircraft fire without recourse to any evasive maneuvers whatsoever, all pilots on the 83 missions involved displayed determination which is indicative of great courage, gallantry and devotion to duty. The brilliant achievement of the 67th Tactical Reconnaissance Group in providing these indispensable photographs was a significant factor in the successful invasion of the Continent. Their extraordinary achievement and heroism in the execution of the arduous task was in keeping with the highest traditions of the Army Air Forces."

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### 3. Night Photography Inaugurated

A major development of this period was the inauguration of night photography in the 10th Photo Group. The 155th Night Photo Squadron, formerly the 423rd Night Fighter Squadron, was assigned to the Group on 23 May and began learning the navigational and other intricacies of this difficult game.

Pilots at first were dismayed at being shifted from their P-61 (Black Widow) night fighters and the work for which they had been trained, to A-20's and a job which seemed to have far less glamour. The first few training flights, however, helped to convince them that the work could be of great tactical value and that their abilities were not being wasted.

Two means of illumination were used. One was a series of flash bombs, released from 8,000 feet altitude or less depending upon cloud conditions. The other was an electric flash lamp, developed by Dr. Harold Edgerton, of Massachusetts Institute of Technology. Carried in the plane itself, the device emits a light of extremely short duration but terrific intensity, for photography at altitudes of 500 to 3,000 feet. Bomb bays were reconstructed to carry this huge electric lamp, capable of 200,000,000 candlepower and sufficient flashes to expose an entire roll of film (150-180 exposures).

Results of both types of photography were encouraging, and after several weeks of practice the squadron was given the honor of flying its first night photo reconnaissance sorties in the early hours of D-day. The purpose was to spot German troop movements by road or rail up the Cherbourg Peninsula.

Three flash bomb missions were unsuccessful, but a fourth plane, carrying the Edgerton flash lamp equipment in its operational debut over EUROPE, brought back good pictures of objectives at VILLEDIEU and COUTANCES.

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C. D-DAY AND AFTER1. Tac Recce and Fighter-Bomber Teamwork

US tactical reconnaissance in connection with the invasion and the period immediately thereafter was handled by the 67th Tactical Reconnaissance Group of IX Fighter Command, operating out of MIDDLE WALLOP, near SALISBURY, ENGLAND, with four Tac/R squadrons (the 12th, 15th, 107th and 109th) and one P/R squadron, the 30th. The 10th Photo Group meanwhile continued to operate from CHALGROVE, near OXFORD, with three P/R squadrons and one night photo squadron, its F-5s doing chiefly flying bomb site photography and other bomb damage assessment work for Ninth Air Force and basic cover for 21st Army Group.

The job being done by Tac/R in those busy days of building up beachheads is indicated by excerpts from the records of the 10th Photo Group's two future Tac/R squadrons, the 12th and 15th.

Although recce pilots are under standing orders to avoid combat if possible, the recce sections comprising two F-6s carrying the regular Mustang fighter armament were knocking down enemy planes at a rate which indicated that the offensive spirit of D-day had gotten into their blood.

The first aerial victory scored by a US Tac/R pilot on the Western Front, and, it was later discovered, the first Allied air victory of D-day, was scored by a 15th Squadron pilot, Capt. (then Lt.) Joe Conklin. Flying on the deck with Lt. Trenner, he sighted an FW-190 making its final approach for a landing on the airfield at DREUX, west of PARIS. Conklin opened fire at 400 yards and closed to 50 yards with two long bursts, whereupon the enemy fighter exploded in the air and crashed. The time - 1235 hours, D-day, 6 June. That evening two other 15th Squadron pilots returned from a visual recce mission with more Nazi scalps -- two FW-190's destroyed and one probable.

The 12th Squadron likewise was bringing back scalps as well as information. On the afternoon of 7 June, Lts. Lacey and Piatt were flying a visual recce of the LAVAL area when they noticed three FW-190s circling the field south of the town preparatory to landing. Our pilots were in good position, above the enemy and coming out of the

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sun, so they attacked. Each shot one down and then they chased the survivor, damaging him before shortage of gas forced them to give up the pursuit. To these two went the distinction of being the Squadron's first pilots in this war to shoot down an enemy plane.

But more important than knocking down Kraut aircraft was the fascinating job of finding fat targets for fighter-bombers. A large part of the work consisted of area reconnaissance behind the enemy lines, observing everything of a military nature and reporting by radio to ground troops and Fighter Control. The efficiency with which this system operated is illustrated by the following incident from the 12th Squadron's records:

At 1830 hours on 19 June, Lts. Cox and Garr were patrolling in the FOUGERES area when they spotted a convoy of approximately 200 horse-drawn artillery pieces moving north out of the town. Twenty minutes later that convoy ceased to exist! Here is what happened in those 20 minutes:

Lt. Cox, immediately upon spotting the convoy, reported it by radio, giving Fighter Control the convoy's size, direction of movement, the grid coordinates and the time; then, his part done, he continued his recce. Fighter Control, recognizing a hot target, at once contacted a squadron of P-47 fighter-bombers on the prowl in a nearby area. They in turn contacted the convoy, much to the latter's discomfort, and literally blew it off the map. At 1850 hours all that remained was a heap of burning vehicles and equipment and a column of smoke.

Call it a neat example of close coordination between reconnaissance and fighter-bombers; call it tactical aviation at its best; or call it just part of the day's work, it all adds up to the same thing-- a job well done.

Meanwhile the inevitable losses were occurring as the Germans filled the air with light flak and small-arms fire. On 22 June, for example, Lt. Knoebel of the 15th, on a visual recce, dived to get a closer look at a convoy on a road near SAN QUENTIN. His wing man saw Knoebel's plane roll over on its back, crash and explode, probably as a result of small-arms fire from the convoy. Later that day, Lt. McCormick wreaked some scant revenge by downing an ME-109 taking off from PERONNE airfield.\*

\* Eye-witness information later disclosed that the right wing of Lt. Ralph Knoebel's P-51 struck a telephone pole, undoubtedly causing the crash.

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The flying bomb, newest terror weapon of the Nazis, went into action during June and became an increasing menace to LONDON and southeast ENGLAND. Allied bombers blasted the launching sites in a new series of attacks, and a number of bomb damage assessment photo missions were flown by the tac recce planes in addition to their reconnaissance coverage of German military movements.

Checking of bridges was another important job, and on 25 June one pilot -- Capt. John H. Hoefker, of the 15th -- brought back excellent obliques of 17 bridges across the LOIRE, all the way from NANTES to ANGERS.

On 29 June the 15th Squadron began operating from CHALGROVE under the 10th Photo Group while the 12th Squadron moved from MIDDLE WALLOP to the continent with the 67th Tactical Reconnaissance Group. The end of the invasion month found the 15th Squadron with the unusual record, for a recce outfit, of eight enemy aircraft kills, three probables and one damaged, in addition to its primary mission of gathering information concerning the enemy.

In July the story was much the same. Two typical days:

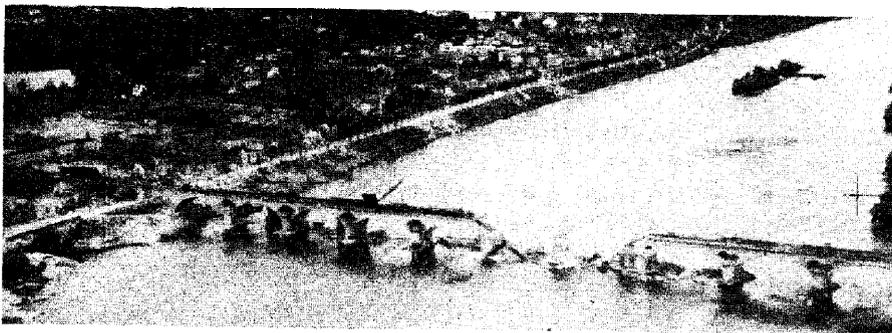
18 July -- Just as Lts. Waits and Miefert completed a photo run on the CHERISY railroad bridge, they were bounced by two ME-109s and in the ensuing combat both ME's were shot down. On the afternoon of the same day, the enemy fared better when a swarm of Messerschmitts swooped down on Lts. Ristau and Youll near AVRANCHES. Ristau, the lead man, radioed to Youll to run and rendezvous at the beachhead landing strip. Youll climbed into the clouds and eluded the fighters, but Ristau evidently went down under their guns.

20 July -- Two more pilots -- Capt. Theodore Trulson and 1st Lt. Alfred O. Frick -- got a victim when they shared credit for shooting down an ME-109, one of a pair that rashly attempted to molest them over the airfield at CLASTRES. Also that day, the squadron again had occasion to appreciate the efficiency of fighter-bomber - tactical reconnaissance cooperation. Capt. Robert Raymond radioed a report on a train moving southeast into AMIENS loaded with armored vehicles. Within twenty minutes fighter-bombers were bombing and strafing the train.

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TOURS RR BRIDGE OVER LOIRE (TAC/R OBLIQUE)

With the need most urgent but ceilings dangerously low, Tac/R had received the task of running visual and photo reconnaissance regularly to determine the serviceability and repair status of railroad and highway bridges over the SEINE and the LOIRE.

So great was the importance of continuous isolation of the battle area by preventing German supplies and reinforcements from crossing these rivers that Tac/R flew a number of low-level recces in almost prohibitive flying weather.

On 11 July, Lt. Col. George T. Walker, then Commander of the 15th Tac/R Squadron and now Commander of the XII Tac/R Group, Prov., flew a single-ship mission at tree-top level to photograph the SEINE railroad bridge at MANTES-GASSICOURT. 1st Lt. Salvatore A. Mecca, on a similar mission to another bridge near PARIS on the same day, failed to return and was later reported killed in action.

Between 10 and 13 July, Capt. Joe Conklin, 1st Lt. John F. Miefert, 1st Lt. Frank W. Ristau (now a prisoner of war), and 1st Lt. Ernest M. Schonard, flew four missions from CHAL-GROVE, ENGLAND, to check visually and to photograph pathfinder bombing results on bridges at SAUMUR and ANGERS. They flew by instruments through clouds all the way, let down over the LOIRE RIVER under a ceiling of less than a thousand feet, performed their mission and flew back to ENGLAND in the clouds.

During this low-ceiling period, on 11 July, 1st Lt. James O. Warenskjold (now missing in action from another similar single-plane low-level mission), 1st Lt. (now Capt.) Russell Stelle, and 1st Lt. Ted Reger, flew tree-top low-level recces in the BRITTANY-NORMANDY battle area. On the following day, similar unescorted visual missions were flown by 1st Lt. (now Capt.) James F. McCormick, Capt. Robert E. Dawson and Capt. Lyon L. Davis (now Major and Commanding Officer of the 15th Tac/R Squadron).

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## 2. A-20s on the Night Shift

By night also the enemy's movements were being watched, through the work of the 155th Night Photo Squadron. Although still very much in the experimental stage, this outfit showed steady improvement following its operational debut on the eve of D-day.

Targets were chiefly crossroads, road strips, artillery emplacements or towns such as CERISY, TESSY, AVRANCHES, GRANVILLE, and other points on or near the German lines in NORMANDY.

In July, although frequently balked by bad weather, the squadron flew 64 sorties. Of these, about 60 percent were successful, the others failing for such diverse reasons as navigational error, Gee set failure, 9/10th coverage at 4,000 feet when the pictures should be taken at 8,000 feet, enemy anti-aircraft fire or night fighter action.

When planes were lost they had a way of disappearing without trace. Shortly after midnight on 11 June, for example, an A-20J equipped with the Edgerton flash unit was dispatched to photograph the road strip between ST. LO and VIRE on the CHERBOURG PENINSULA at an altitude of 2,000 feet. The aircraft was last seen heading for the Channel. Nothing more has ever been heard of the plane or its three-man crew. Enemy anti-aircraft was very active on the peninsula at the time, but the fate of the plane can only be conjectured.

An equal mystery was the loss of another A-20 which took off at 2251 hours on 17 July with ten flash bombs to photograph two pinpoints and a crossroad on the CHERBOURG PENINSULA from an altitude of 8,000 feet. The time over target was to be 0030. Nothing has since been heard of the aircraft or crew. Four other crews returned safely, reporting no anti-aircraft or enemy fighter activity.

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D. THIRD ARMY AND XIX TAC IN ACTION

1. Reconnaissance Plans Perfected

Early in July, Third Army and XIX TAC headquarters moved from ENGLAND to FRANCE and pitched their command posts side by side in the NEHOU area of NORMANDY. Reconnaissance methods being followed by First US Army and IX TAC were studied and plans laid for the beginning of operations.

To establish close contact between the Army G-2 (Air) requesting the missions and the Group which was to fly them, XIX Tactical Air Command arranged to have one of the outstanding officers of the 10th Photo Group, Rcn, permanently on duty at its headquarters as XIX TAC Reconnaissance Officer, with another officer from the Group as his assistant. Under this plan, which has worked out well, the XIX TAC Reconnaissance Officer works very closely with the Army G-2 (Air) Section's Air Reconnaissance Coordinating Officer who occupies an adjoining desk in the XIX TAC Combined Operations Room or tent. The A.R.C.O. receives all reconnaissance requests from army units, and each evening he and the Reconnaissance Officer confer on planned missions for the next day, subject to the approval of the Commanding General and the AC of S, A-2, XIX TAC. Missions decided upon are transmitted directly to the Group by the Reconnaissance Officer.

Results of reconnaissance are received from the Group by the Reconnaissance Officer, or by the A.R.C.O. from the Ground Liaison Officers, and their close physical juxtaposition permits the closest teamwork and swift dissemination of information obtained.

During this pre-operational phase, "A" Echelon of Third Army's Photo Center, in addition to making photographic interpretation reports and distributing photo information to Army units on the Continent, was engaged in further training of its Photo Interpretation Teams. Interpreters who had studied aerial photographs of the NORMANDY defenses were now enabled to inspect the fortifications on the ground, thus broadening their knowledge of casemates and other organized defense works. During this ground study a team en route to a defensive position dodged a dead cow and ran over a teller mine, the detonation severely injuring the commanding officer of the team.

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2. Photo Group Still in Britain at the Jumpoff

As 1 August approached it became increasingly apparent that Third Army and XIX TAC would have to go into operation with their Reconnaissance Group on the other side of the Channel. The NORMANDY campaign was behind schedule and no field was yet available for the 10th Photo Group. For a time, all reconnaissance needs would have to be met by the Group's 12th Tactical Reconnaissance Squadron, which was operating with the 67th Group from a NORMANDY airstrip, and by the 67th itself.

But capture of a good base was not long delayed. Just 11 days after General Patton started his drive, the 10th Photo Group had crossed the Channel and was in possession of a base which had been deep in enemy territory before the jumpoff-- RENNES/ST. JACQUES Airfield, now known as A-27. One of the first fruits of the Patton push had been RENNES, the capital and metropolis of BRITTANY, with its good airfields and sites-- an example of how the Army supports the Air Force.

In the first few days of the campaign, Tactical Reconnaissance was provided by 12th Squadron pilots operating with 67th Reconnaissance Group from A-9, near LE MOLAY, in NORMANDY.

The speed of the drive into BRITTANY was so great that planned tactical reconnaissance coverage had to be changed every day. VIII Corps, on its thrust toward BREST, often requested tactical reconnaissance to check particular bridges and roads and to inspect woods and towns for signs of ambush. Locating the enemy was difficult from the ground, but the eyes above were able to spot him for attack by ground weapons or by the fighter-bombers which meanwhile were locating numerous targets for themselves.

Radio communication with Fighter Control over "D" Channel worked well, and this channel was monitored at Command Headquarters by the Reconnaissance Officer. However, aircraft at this stage were frequently unable to contact corps, divisions, combat commands and task forces directly by radio, and the campaign was well advanced before these bugs had been eliminated.

Ground communications were good until the rapidity of the advance stretched them to the breaking point, and by this means information obtained from interrogation of returning pilots could frequently be placed in the hands

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of the Army in time to be of use. Tactical reconnaissance results were phoned to the Army G-2 (Air) Section's Air Reconnaissance Coordinating Officer at XIX Tactical Air Command by the Group's Ground Liaison Officer or to the Command Reconnaissance Officer by the Squadron Intelligence Officer. Information of interest to the ground forces was sent to Corps over Third Army teletype or telephone by the A.R.C.O.

Corps requests for reconnaissance were phoned in to G-2 (Air) and handed to the A.R.C.O. for action. Missions and priorities were decided in conference with the XIX TAC Reconnaissance Officer, who then phoned them to the 12th Tactical Reconnaissance Squadron.

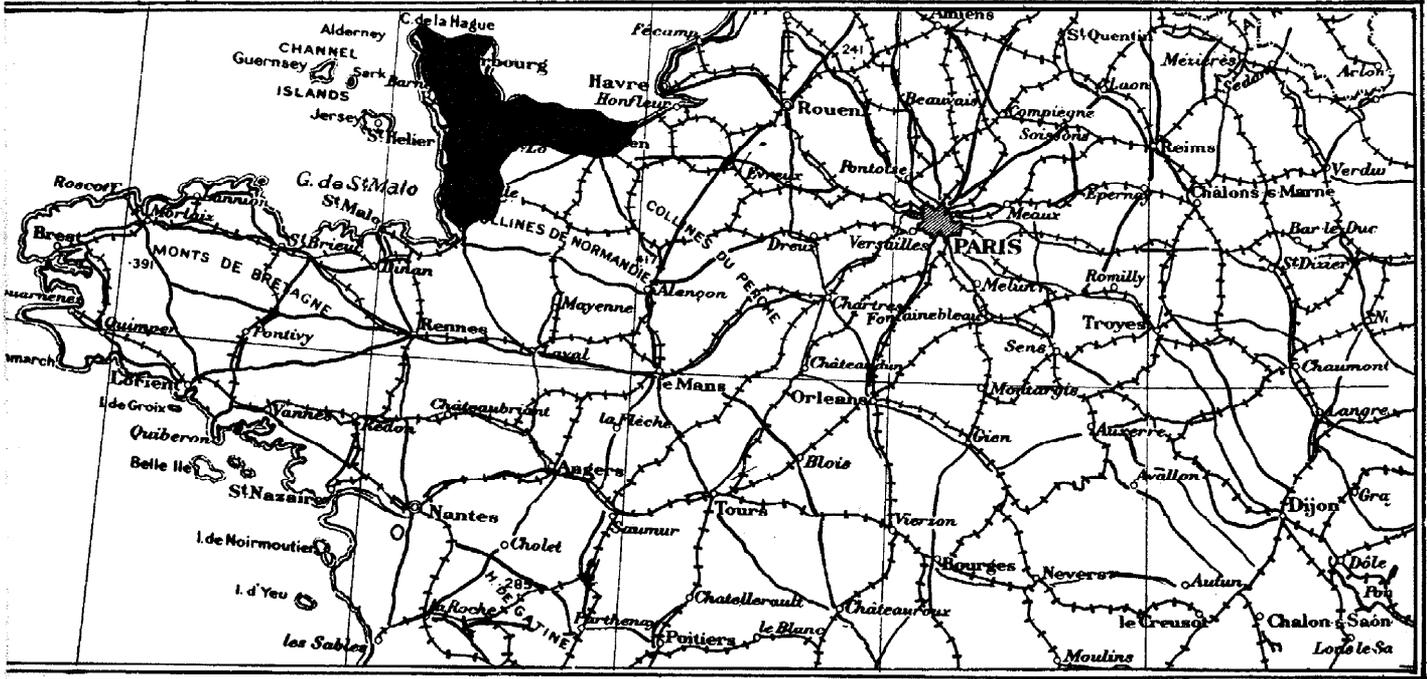
During the first five days of operations, 26 tactical reconnaissance missions were requested and flown and all were successful. Of eight photo reconnaissance missions requested of 67th Group and accepted, two were cancelled because of weather.

To spot possible demolitions or construction of defense works, daily photo coverage of the harbors of the BRITTANY PENINSULA was started. On this daily "milk run" over ST. MALO, MORLAIX, BREST and ST. NAZAIRE, pilots were requested to make visual reconnaissance of the coast. This released tactical reconnaissance planes to fly missions to the front and along the south flank of Third Army.

"It was surprising to note the complete and excellent observations made by a pilot flying at 20,000 to 30,000 feet," says 1st Lt. David Marchus of the Third Army G-2 (Air) Section in his excellent history of the employment of reconnaissance in the campaign. These observations by photo pilots supplemented information obtained from tactical reconnaissance.

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THIRD U.S. ARMY FRONT  
1 AUGUST, 1944

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### 3. The Drive to the East

As Third Army struck eastward, with most of BRITTANY already in its hands after five days, planned reconnaissance was changed from routes to areas to give more thorough coverage and to spot enemy movement on secondary roads. The front and flanks were divided into areas, each of which was given a letter. Overlays showing these areas were delivered to the Corps and the Reconnaissance Group. As Third Army over-ran one area, it was cancelled and another added.

Third Army's spearheads sometimes outstripped their communications with Corps and Army, so tactical reconnaissance briefing included instructions to report locations of US armored columns fanning out to the east. Reports from recce and fighter-bomber pilots frequently helped ground commanders to keep abreast of the fluid, fast-moving situation.

As the encirclement of the German Seventh Army in the ARGENTAN area proceeded following the capture of LEMANS, tactical reconnaissance planes were quick to report the huge convoys on roads leading north and east, and many good killings by fighter-bombers resulted.

At the same time tactical reconnaissance also had the job of covering the westward advance upon BREST, and until the fall of the Citadel at ST. MALO, the CHANNEL ISLANDS had to be closely watched to discover attempts at reinforcement or evacuation of the garrisons of GUERNSEY and JERSEY.

Moving to RENNES on 11 August, the 12th Squadron began operating directly under its parent Group, with consequently increased efficiency and of course greatly increased range. Here it was joined by its brother squadron, the 15th, the 155th Night Photo Squadron and the 31st and 34th P/R Squadrons. (The 33rd went to the 67th Group, giving each Group two Tac/R and two P/R squadrons.)

With the 10th Group operating from RENNES, the scale of reconnaissance activity shot upward sharply. Up to 14 August the maximum number of successful tac recce visual missions flown in one day had been 14, but on that date the number increased to 36.

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#### 4. Mobile War Requires Plenty of Tac/R

So swift was the pace of the Patton advance that most of the emphasis during this period was on Tac/R. Aerial photographs became out of date almost as soon as they were made, with the result that there was comparatively little need for photo recce.

During the month, 432 tactical reconnaissance missions were flown for the Army, compared to 81 photo reconnaissance missions. (These Army figures for August do not include the many missions flown for Air Force, on bomb damage assessment and airfield reconnaissance. For 10th Photo Group totals see Annex 3.)

The F-6's were hitting a new high in activity, operating from dawn to dark through the long summer days to watch out for danger or luscious targets ahead of the on-rushing Third Army's columns and along its vulnerable flank on the LOIRE. Most of the bridges between NANTES and ORLEANS had been destroyed, and reconnaissance of these bridges had to be made daily, in addition to watching the area south of the LOIRE for any signs of dangerous concentration.

The 12th Squadron, flying 291 missions, lost three pilots in ways which well illustrate the type of work being done and the hazards involved.

One of the losses occurred on 8 August, during a visual reconnaissance of the LE MANS area. The two-plane section was suddenly jumped by 12 ME-109s. They both broke and took evasive action. One pilot returned to base safely, but the other was wounded and had to make a crash-landing at Strip A-13. He died in the station hospital a few hours later.

Another of the squadron's pilots was flying an artillery adjustment mission over BREST on 27 August when he was hit by flak. His No. 2 man saw his plane crash and explode just outside of BREST.

A third pilot was on a route reconnaissance in the REIMS-NANCY area on 27 August when his plane was hit by flak. Bailing out as the plane burst into flames, he suffered injuries, but recovered, evaded and within a few weeks was back with his squadron, flying operations again.

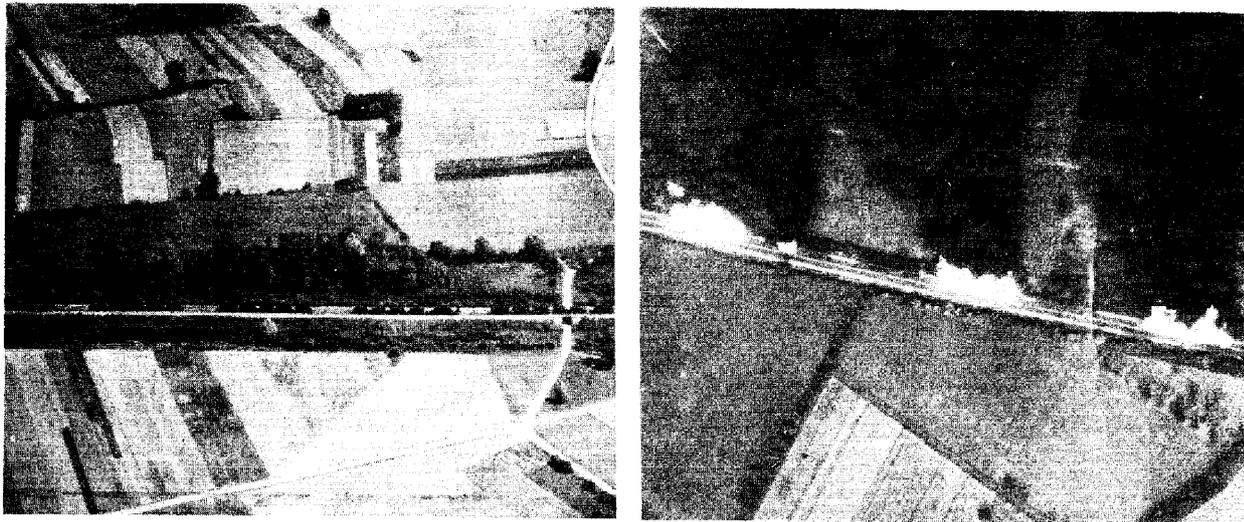
By 13 August the 15th Squadron also was in action from the RENNES base and began exercising its knack of shooting down enemy planes as well as bringing back

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BEFORE AND AFTER SHOTS OF RR TANK CARS NEAR CHATEAURoux

A Tac/R pilot, flying south of the LOIRE in the area of CHATEAURoux, spotted these tank cars, reported and photographed them and then made a record of the flame and smoke which followed the fighter-bomber strafing attack.

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information and photographs.

The middle of the month found General Patton's eastward-rolling waves of armor and infantry lapping at DREUX and ORLEANS while his foremost patrols were within nine miles of PARIS itself.

The PARIS area was becoming an increasingly unhealthy place for the Germans, and the hornet's nest of airfields around the city was in a thoroughly stirred-up condition, with many planes being withdrawn to bases farther east and northeast. On one mission in the region of the capital on the 17th, two recce planes of the 15th Squadron were bounced by enemy fighters. They dived for the deck and after outrunning their pursuers they sighted two planes directly in front of them, a JU-88 and a JU-52. That chance meeting cost the dwindling Luftwaffe both the bomber and the lumbering three-engined transport.

On the same day, far to the westward in BRITTANY, another 15th Squadron pilot made excellent vertical and oblique photographs of the Citadel of ST. MALO, which surrendered on that date.

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5. Bridgework, One-Day Service

By 20 August General Patton's forces driving toward the SEINE below PARIS were about to cross the LOING RIVER, one of its southern tributaries. Third Army needed a complete and accurate report on the condition of all bridges across the LOING. This exceptionally important mission was undertaken by 15th Squadron, and Lt. (now Capt.) Robert L. Raymond, with Lt. Balachowski flying wing, took oblique photographs of all the bridges across the river. Next morning Patton's troops crossed the LOING.

Capt. Raymond flew the course of the river twice at 2500 feet for a total distance of over sixty miles, taking obliques from each bank so that shadows would not obscure the same portion of each bridge and also in order that bridge approaches might be studied. In addition the bridges over the canal were covered. Capt. Raymond's visual observations of the bridges, sent to the Army the same morning, were confirmed in the afternoon by his photos.

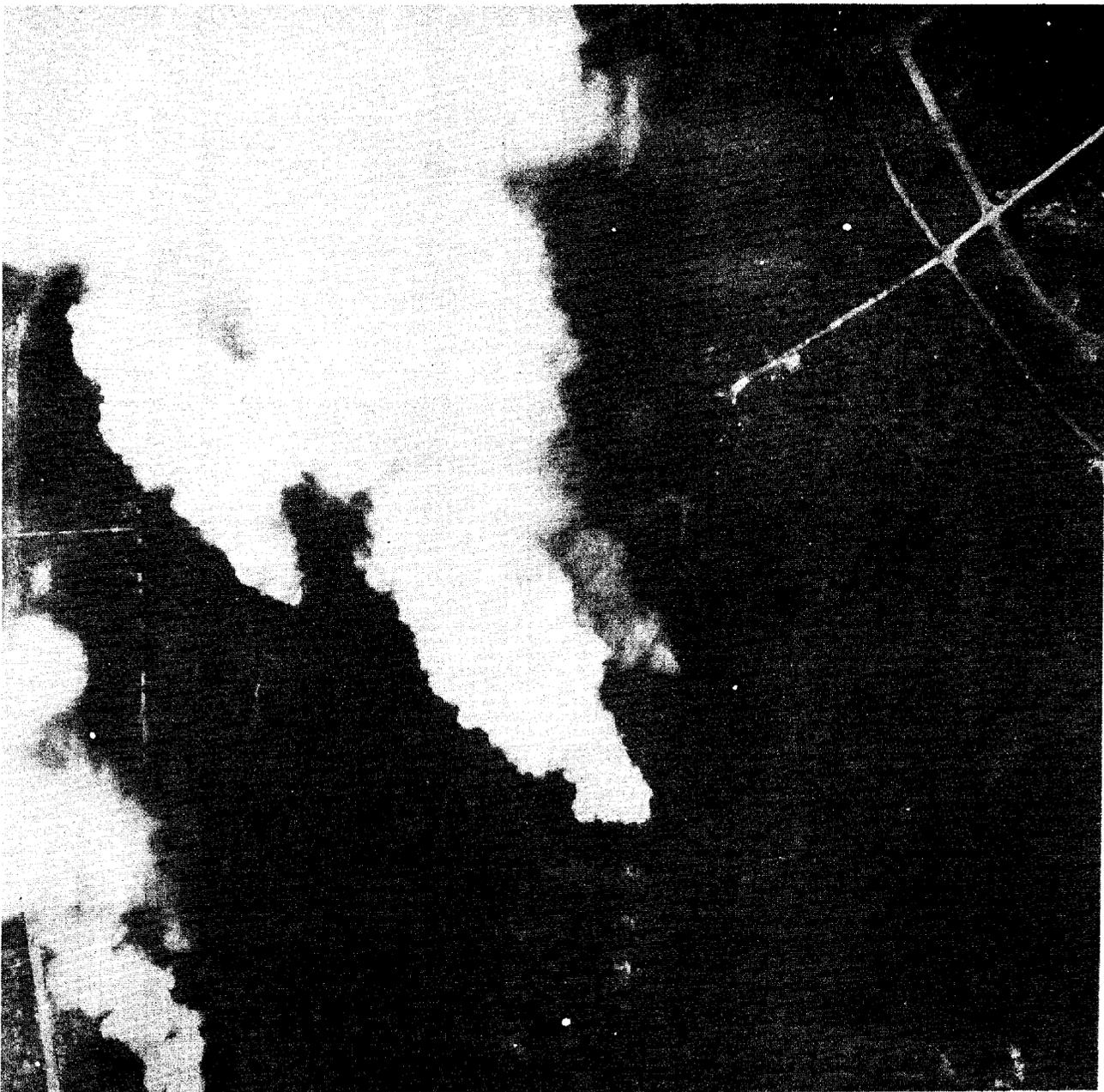
In a letter of commendation to 10th Photo Group, Major General O. P. Weyland, commanding XIX TAC, said:

"An outstanding example of the manner in which your Group has obtained and delivered essential information to our ground forces was afforded on 20 August 1944. On the morning of that day, the Army requested photographic cover of the SEINE and LOING Rivers. The mission was flown and the photographs delivered to Army that afternoon in ample time to enable proper planning of an attack which was successfully executed the following morning.

"The prompt and efficient fulfillment of this emergency request added materially to the Army's already high opinion of the quality of air support furnished by XIX TAC units."

In the same letter, General Weyland said: "The spectacular successes achieved by the Third US Army in recent weeks would not have been possible without the prompt and accurate observation and reporting of the enemy's dispositions and movements, which has been so efficiently provided by the 10th Photo Group, Reconnaissance."

An important factor in the success of our reconnaissance was the work of the Ground Liaison Officers provided by Third Army. Our tactical reconnaissance units quickly realized the value of having these specially-trained ground force officers present in the squadrons to interpret army requests, present the ever-changing tactical situation, extract all information from the pilot, and expedite the dissemination of ground information to the Army.



BURNING AMMUNITION DUMP IN WOODS EAST OF CREIL,  
NORTHEAST OF PARIS, 26 AUGUST 1944

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Meanwhile the F-5s were flying photo reconnaissance not only over the harbors in BRITTANY but also well out in front of Third Army, where photographs were being taken of possible river crossing sites along the SEINE, the MARNE and the MEUSE. While XV Corps drove for the SEINE northwest of PARIS in the MANTES GASSICOURT area, XX Corps was racing to the east to secure crossings on the upper SEINE.

6. Reconnaissance Watches the Routes of Retreat

By 23 August, Third Army had elements across the SEINE both above and below PARIS. With XV Corps advancing northwest along the SEINE toward LOUVIERS and with US First Army and British and Canadian troops driving north and eastward, another big pocket was forming around elements of the German Seventh Army which had escaped the FALAISE trap. As air-ground communications improved, tactical reconnaissance pilots were frequently able to report location of German troops directly to armored columns pursuing the enemy.

The Seventh US Army was driving up the RHONE VALLEY toward a junction with Third Army, and on 25 August tactical reconnaissance reported large-scale enemy rail and motor movement north and east below the LOIRE. Trains loaded with troops and equipment were escaping into GERMANY from southern FRANCE, through the DIJON-BESANCON gap.

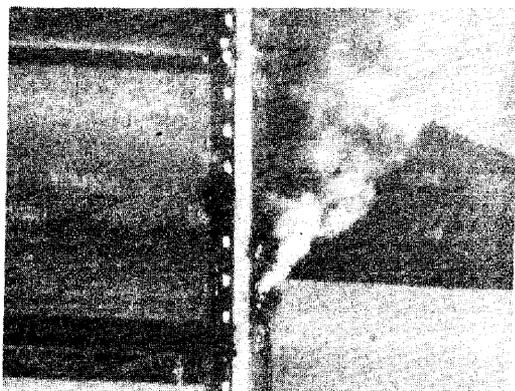
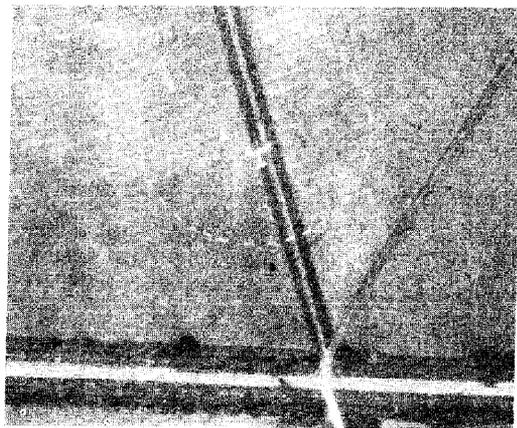
A rail-cutting program was immediately started by XIX TAC to prevent the enemy's escape. However, this program had to be interrupted when XIX TAC received orders to divert all the fighter-bomber effort to support of the attack on BREST.

Toward the end of the month, VIII Corps, with the task of capturing stubborn BREST, was physically separated from Third Army Headquarters and Third Army Photo Center by distances varying between 150 and 350 miles. To eliminate a portion of the communication difficulties, fixed daily missions were scheduled for the VIII Corps. These consisted of photo cover of the BREST-CROZON Peninsula, and a set number of artillery adjustment missions each day, at first three and later four.

After the 10th Photo Group moved from RENNES to CHATEAUDUN on 24 August, it was necessary for artillery adjustment planes to land at RENNES for refueling either before or after the mission. Distances involved were tremendous and unavoidable inefficiency resulted. For example, it was frequently necessary for the planes to fly for an hour before reaching the scene of operations and then start back after 20 or 30 minutes.

At the other extremity, to the eastward, even Tac/R planes were flying over GERMANY itself by the end of the month as General Patton's spearheads reached the threshold of the REICH.

Because of the swiftness of the advance and the



SCENES DURING AND AFTER DESTRUCTION OF A LARGE GERMAN CONVOY NEAR CHATEAURoux ON 7 SEPTEMBER (SEE PAGE 25). NOTE FIGHTER-BOMBER IN UPPER LEFT PHOTO. VEHICLES AT RIGHT ARE COMMANDERED CIVILIAN TRANSPORT USED BY THE FLEEING GERMANS.

great distances involved, ground communications during the month had been a difficult problem. With scores of miles often separating Third Army HQ, XIX TAC HQ, and 10th Photo Group, land-line telephones were often inadequate and barely audible. One result was delay in getting photo and tactical reconnaissance results into the hands of the Corps and in many cases the information was not received in time to be useful.

Because of this situation, pilots were briefed to R/T all important information to the Corps before landing. In some instances pilots flew over the airfield for a half hour, radioing information to Corps to enable the immediate use of ground information. Liaison planes also were used to get tactical reconnaissance information to higher headquarters for distribution to interested units.

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7. Night Photo Ships Used Temporarily  
for Daylight Tac / Recce

With the enemy moving as much as possible by night, nocturnal photography became increasingly important, and the 155th Night Photo Squadron's accomplishments during the month included pictures of the German withdrawal from the ARGENTAN-FALAISE pocket.

While returning from one mission, an A-20 piloted by the Commanding Officer, Lt. Col. Joe G. Gillespie, was hit by friendly AA, the plane damaged and his navigator wounded in the head.

This nearly-fatal accident emphasized the importance of thorough coordination of night missions and careful briefing on friendly as well as enemy AA.

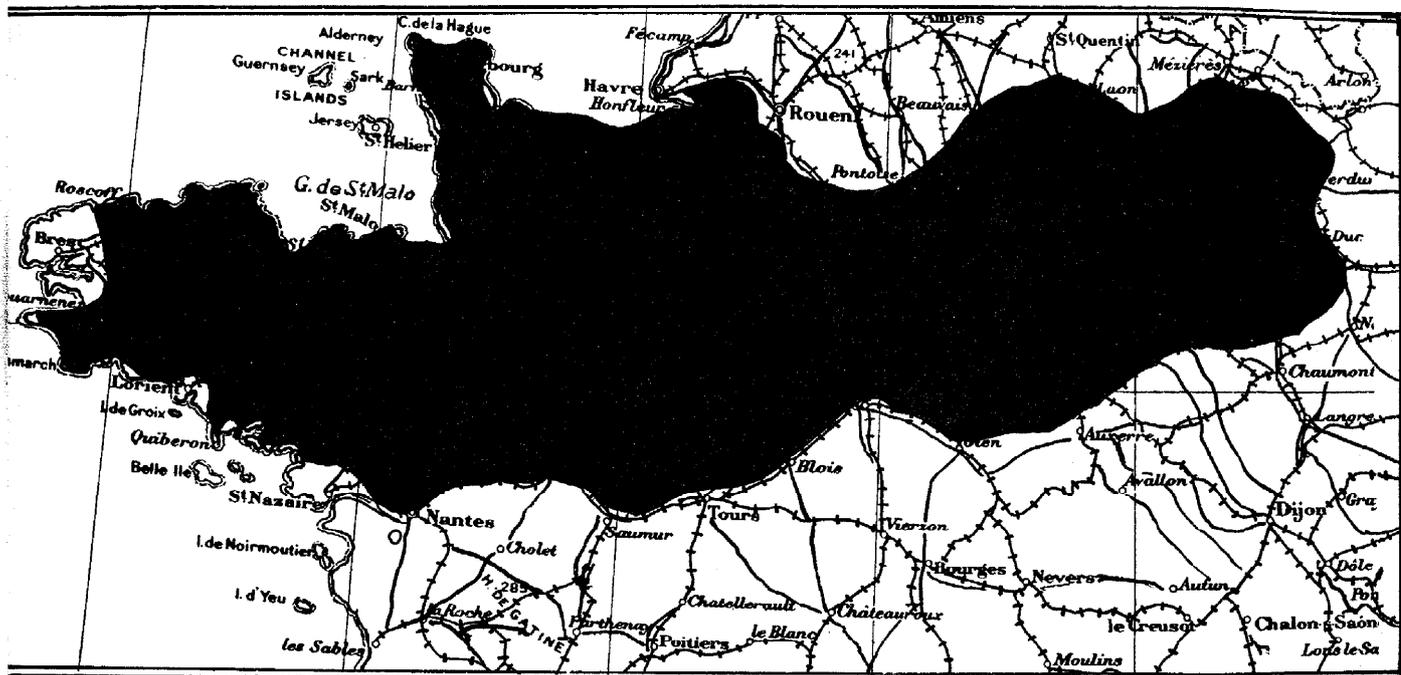
As the front advanced rapidly eastward, the night photo ships for a time were unable to operate except by dead reckoning and moonlight, since they were beyond range of their navigational aids. Accordingly, General Weyland decided to employ the A-20s and their crews temporarily on daylight reconnaissance missions south of the LOIRE where the Luftwaffe was not a serious threat and where all possible vigilance was needed to protect General Patton's right flank.

In general the relatively slow A-20s were assigned the more quiet sectors. Areas of possible enemy air activity and those containing considerable concentrations of flak were still covered by the P-51s (F-6s).

With "Night and Day" as its theme song now, the squadron flew its first daylight missions on 31 August, investigating road and rail concentrations south of the LOIRE, and on 1 Sept, with the aid of a full moon, a highly successful night photo mission was flown over the BESANCON-DIJON area. Extensive rail activity was reported, as well as considerable movement of motor vehicles. The enemy's desperate hurry to escape into GERMANY was indicated by the pilot's report that vehicles were using their full headlights and DIJON was ablaze with light. Night operations, however, were possible only under particularly favorable moon conditions, and during most of the month the squadron operated on the day shift.

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THIRD U.S. ARMY FRONT  
1 SEPTEMBER, 1944

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8. A Shadowing A-20 Calls Fighter-Bombers for the Kill

Emergency use of the night photo A-20s as day-flying tactical reconnaissance planes paid particularly heavy dividends on 7 Sept when it resulted in destruction of a large German convoy. An A-20 flown by Lt. Verket was on patrol south of the LOIRE in the CHATEAUROUX-ISSOUDUN-BOURGES area when he spotted a column of vehicles extending for miles. The Germans were heading for the BELFORT GAP in the hope of getting back into GERMANY before that escape route could be cut by junction of the Third and Seventh Armies. In their haste they were traveling by daylight -- and hoping our reconnaissance would miss them.

It did not, and neither did the XIX TAC fighter-bombers whom Lt. Verket proceeded to summon. Flak over the convoy was intense, and the A-20 was soon badly shot up, but Verket continued taking pictures and reporting his findings to XIX TAC until he was satisfied. While fighter-bombers went to work on the convoy, he flew his riddled plane back to base and landed it safely. Later, another A-20 shot pictures of the burning vehicles and a 31st Photo Group pilot, on a dicing mission, made low-level obliques of the destruction.

Upon receipt of the reconnaissance pilot's report, XIX TAC had dispatched the 406th Group, which found the column, and bombed and strafed it until ammunition was exhausted. Returning to base for more ammunition, the fighter-bombers hurried back and completed destruction of the column. Pilots reported that French civilians were taking the few remaining vehicles as our aircraft left. Total claims: 132 motor transport and 310 horse-drawn vehicles destroyed or damaged. One P-47 was lost.

For its part in the job, the 10th Photo Group received a letter of commendation in which General Weyland cited this as "a splendid example of the manner in which reconnaissance is cooperating with our fighter units to hasten the defeat of the enemy." Vigilant observation, followed by prompt and accurate reporting of the target, its location, and direction of movement, made possible its annihilation.

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9. Sequel: Surrender of 20,000

Sequel to the CHATEAUROUX slaughter was the surrender of the general commanding German forces south of the LOIRE, together with his 20,000 troops and many vehicles.

The attack had been the last straw. With his best combat elements and transport gone, with the air preventing him even from running away, with the FFI nipping ever more boldly at his heels, and with the escape route into GERMANY now completely cut, Major General Botho Elster gave up.

The German Commander indicated his willingness to surrender provided XIX TAC stopped its air attacks on his troops. Accordingly, we suspended our offensive operations south of the LOIRE during the negotiations while maintaining air surveillance of his forces. He was threatened with all-out fighter-bomber action if he did not surrender.

On 10 September, three days after destruction of the column, General Elster agreed to do so. The agreement was reached at a conference at ISSOUDUN with the Commanding General of the 83rd Infantry Div, and the formal capitulation six days later was made to the newly formed Ninth Army which had been given responsibility for BRITTANY and the area south of the LOIRE.

Among the American officers to whom Elster surrendered on 16 Sept at BEAUGENCY BRIDGE, on the LOIRE, were representatives of his nemesis, the Third US Army, and General Weyland as commander of the XIX TAC recon planes and fighter-bombers which had contributed so heavily to his decision.

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E. STALEMATE ON THE MOSELLE1. The Pace Slows

The move of the Group from RENNES to Airfield A-39 at CHATEAUDUN about 24 August had brought the Tac/R squadrons to a point from which it was possible to dispatch missions over the eastern reaches of FRANCE. Even so, the continued advance of General Patton's armored columns in early September soon made evident the necessity for another move.

In order to fly tactical reconnaissance to the depth required (east of the RHINE RIVER) from the base at CHATEAUDUN, it was necessary at this stage to utilize photo recce P-38s (F-5s) equipped with belly tanks, for long-range visual recce. This was possible solely because of the limited use of photo reconnaissance during this period of rapid movement, and the pilots of the unarmed F-5s did a good pinch-hitting job.

Among the observations reported by reconnaissance at the beginning of September was one that the airfield at ST. DIZIER was serviceable, and by the 10th the Group had moved to that spacious base, now designated A-64. Wrecks of blasted ME-110s dotted the field; Ninth Air Force engineers and French workers still labored to repair damage to the runways and perimeter tracks.

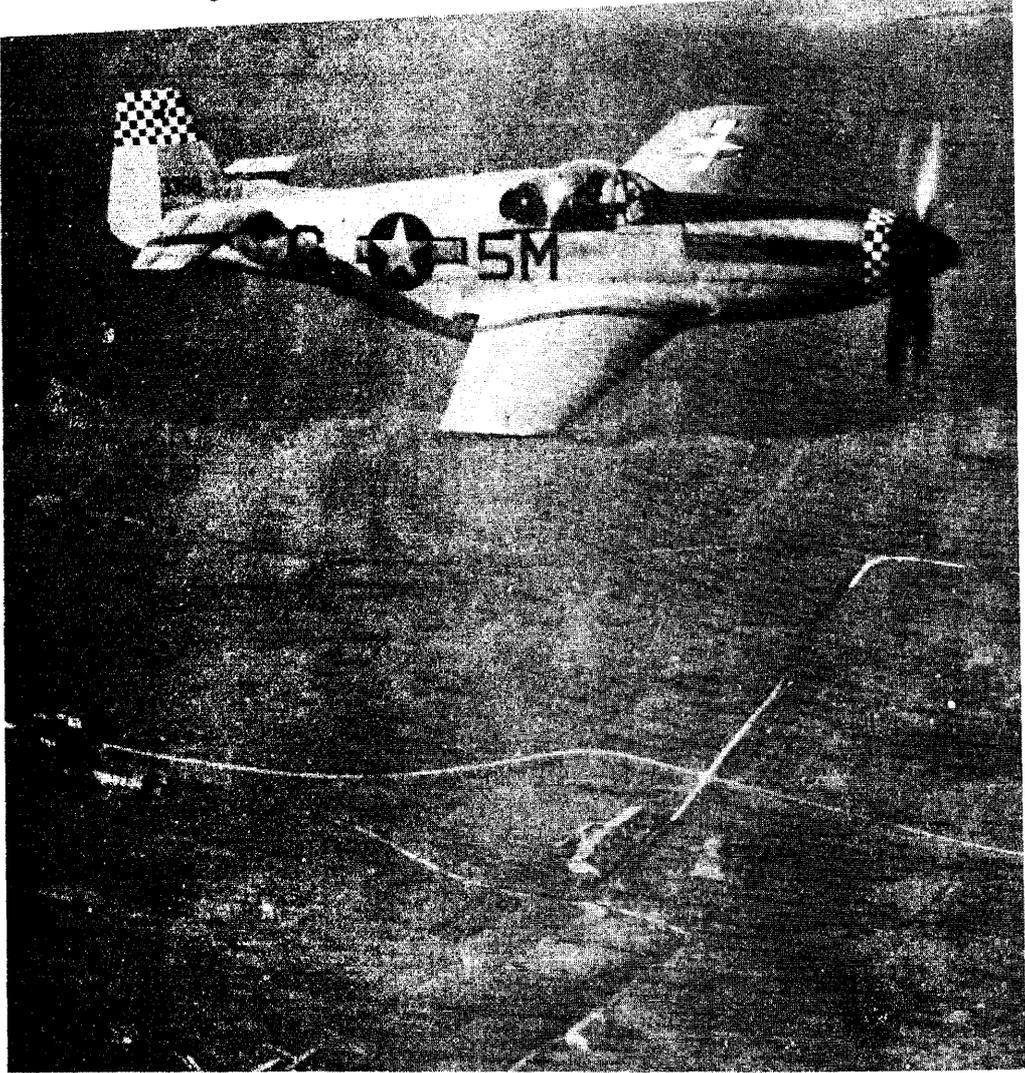
At this juncture the Ninth US Army became operational, assuming command of VIII Corps and responsibility for the BRITTANY Peninsula and the LOIRE RIVER as far east as ORLEANS, with its own Tactical Air Command, the XXIXth. As a result, Third Army - XIX TAC territorial responsibilities and communications problems were greatly reduced and they were able to concentrate on the area ahead.

Largely through lack of supplies, Third Army's drive lost momentum in mid-September and slowed to a virtual halt before the fortress city of METZ on the MOSELLE.

A period of bad weather ensued and great concern was felt over the believed elasticity of the enemy's organization and his ability to recover his balance once the pressure was removed. These fears were found justified when clearing weather again permitted tactical reconnaissance. Heavy rail traffic moving east to west was reported. It was evident that the enemy was making strenuous efforts to reinforce his defensive positions along the MOSELLE. A rail-cutting program was immediately begun in an effort to stop this flow, but it proved only

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P-51 (F-6) MUSTANG TACTICAL RECONNAISSANCE AIRCRAFT  
ON A VISUAL RECCE BEHIND ENEMY LINES

partially successful because of the bad flying weather.

On 10 September a special F-6 mission was flown with the objective of contacting an Allied agent in the DIJON area by radio. It was the first of five such missions which failed to contact the agent and produced nothing more than some slight information about the Seventh Army's northward advance from southern FRANCE. Finally word came down from higher headquarters to cancel the mission.

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THIRD U.S. ARMY FRONT  
 15 SEPTEMBER, 1944

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## 2. Recce's Role in a More Static Situation

The rapid advance of Third Army during August had completely upset all plans for securing basic cover. Instead of trying to get overall coverage of areas, which were often already captured by the time the prints could be distributed, we photographed the main routes of advance ahead of our columns and flew strips along the major terrain obstacles, such as the MEUSE, MOSELLE, SAAR and RHINE RIVERS.

But with the halt along the MOSELLE in September, an extensive program of area coverage was begun. Initial priorities were assigned to the SIEGFRIED LINE along the SAAR to the RHINE and up the RHINE to the vicinity of COLMAR.

During the period 10-13 September, approximately 10,000 square miles of territory were photographed, and in the following week more than 200,000 prints were delivered to the Third Army Photo Center by the 10th Photo Group. Printing of these photos required approximately four acres of paper.

Junction of the Third and Seventh Armies on 12 Sept eliminated the former's need for a considerable portion of the cover south of the line MIRECOURT-STRASBOURG. Photographs already taken in this area were passed to Seventh Army and attention concentrated upon the somewhat reduced but still extensive Third Army front.

By the end of September basic coverage of the area was well advanced, and a tremendous backlog of films for quantity production was in the hands of the reproduction units. The Third Army Photo Center at 10th Photo Group was practically swamped by the prints pouring in as a result of the enormous flying effort of the basic cover plan.

One photo interpretation report, issued 14 September, consisted of 18 mimeographed pages-- and this was supplemented later the same day by 13 additional pages! This tremendous mass of information concerning the enemy and his defenses was incorporated in defense traces and collated maps, the first edition of which was distributed by Third Army on 24 September.

While piling up this mass of basic cover, the 10th Photo Group was filling requests from the corps for specific missions in their areas of interest. Crossings of the MOSELLE RIVER were the subject of detailed study by

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all units, and on 9 September requests were made for vertical and oblique cover of the MOSELLE and 10,000 yards beyond.

These photographs and also pinpoint photos of enemy fortifications were taken, and the prints were delivered to the corps by 12 September.

To assist XX Corps in planning attacks on the fortifications west of METZ, Third Army on 19 September requested vertical and oblique photographs. The mission was flown on 20 September, but because of the hazy, overcast weather conditions, it was repeated the following day. By 25 September the first of 19 sheets of a photo mosaic had been prepared by the Third Army Engineer. Three days later the project was complete and in the Corps map depot.

During September 299 photo missions were flown for Third Army -- more than three and a half times as many as in the fluid warfare of August. Of the 299 missions, 223 were successful, 61 failing because of weather and 15 for mechanical reasons. The number of missions requested or successful is no index to the number of sorties, since the single request for basic cover, for instance, required 100 sorties and involved photographing some 10,000 square miles.

With the completion of basic cover between the RHINE and the front line, we began flying daily cover of the enemy lines to a depth of 15,000 yards at Third Army's request.

With the beginning of more static warfare, requests for artillery adjustment missions were received from all corps. Although many such missions had been flown for VIII Corps in its attack on BREST, the eastward drive hitherto had been so rapid that the medium artillery of the corps could not maintain the pace. The halt on the MOSELLE gave it a chance to catch up.

At first these missions were almost universally unsuccessful because of communications difficulties, and to cure this condition the 10th Photo Group, Rcn, on 10 September, sent a service team to the Corps to check their VHF radio sets. The result was a marked increase in the percentage of successful missions.

Late in September several fighter-bomber attacks were made, at request of Third Army, on Fort DRIANT and others of the powerful "fortified groups" composing the defenses of the fortress city of METZ. On some of these missions,

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PORTION OF SIEGFRIED LINE SHOWING DRAGON'S-TOOTH TANK TRAPS,  
TRENCHES, PILLBOXES AND TANK DITCHES

tactical reconnaissance F-6s were sent out with the fighter-bombers and made strike attack photographs. These and damage assessment photographs, plus prisoner of war interrogation, confirmed the opinion of the Commanding General, XIX TAC, that fighter-bomber attack can have little effect on these heavy fortifications of concrete, steel and earth, although Napalm, smoke and HE from fighter-bombers may serve to reduce their effectiveness for a limited time through blinding and harassing effect.

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### 3. Night Photography Resumed

For a short time after the move to ST. DIZIER, the 155th Night Photo Squadron continued to fly daylight Tac/R missions, but almost every A-20 now received a hot reception from flak and one was badly shot up. Furthermore, the more stabilized ground situation now required more emphasis on photographic reconnaissance and some reduction in tactical reconnaissance. Consequently, daylight missions were abandoned and the squadron returned to night photo reconnaissance.

But here a big problem had to be solved-- how to navigate. From ENGLAND flights to NORMANDY were accurately made by use of the British Gee chains, which, if properly used, can bring an aircraft to within 200 yards of a target 150 miles distant. But as you move farther from the Gee stations the signals grow correspondingly weaker and the angles between the Gee lines grow smaller. Hence it is harder and harder to navigate with Gee.

Several other methods of navigation were tried, but without distinct success. Ground control vectored some ships into the approximate vicinity of targets in GERMANY. But approximation is not good enough. Night photo targets are pinpoints or specific strips, and an error of one mile makes the work useless. Finally some ships were sent out in the full of the moon on dead reckoning, but results were indifferent and it is only on two or three days of the month that this method can be relied upon, even when employed by the most experienced navigators.

A solution to the difficulty was found in October when a new Gee chain was established near REIMS. Thereafter, navigation was reasonably successful, the pilots and navigators using a combination of Gee and ground control from an MEW (Microwave Early Warning) station.

Pilots and navigators found it distinctly reassuring to know that the ground controller was following their blip on his screen, ready to warn them if any bogies appeared, or to tell them that the aircraft coming up on their tail was a friendly night fighter. Furthermore, the controller can steer the aircraft around the Inner Artillery Zones, an important consideration, since our own radar-controlled guns are vastly more effective than German anti-aircraft.

In one case, however, the pilot of one of the A-20s was worried by uncannily accurate flak as he approached

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his first target near German-held METZ. Although he took violent evasive action, the flashes followed him, down, around and up. There was no escaping them. Then he discovered that he had unwittingly turned on his electric flash unit, which faithfully flashed on and off, always giving him away no matter how hard he tried to evade. With the telltale light off, evasion was easy.

To avoid fire from friendly anti-aircraft batteries, special pains were taken to plot all Inner Artillery Zones and Gun Defended Areas, to expedite receipt of information as to changes, and to brief the crews thoroughly on all conditions surrounding operation in or near these danger areas.

Meanwhile, experience and experimentation were resulting in better pin-pointing of targets, more effective use of equipment and consequently better photographs. In the use of the flash unit method, the squadron was aided by the return of Dr. Harold Edgerton, its originator, in an advisory capacity. The squadron, as the only night photo unit in the Ninth Air Force, was developing, under stress of operational flights, procedures which normally would be evolved through years of careful experimentation under laboratory conditions.

Third Army, particularly interested in important road and rail junctions immediately behind the enemy front lines, requested 14 night photo missions in October. Four of these were successful. Progress had been made, but there was still much room for improvement.

The night watch on the enemy was further strengthened during October by XIX TAC's acquisition, early in the month, of the 425th Night Fighter Squadron, flying P-61s (Black Widows) on night patrol and intruder sorties. Visual observations by these night fighter crews proved a valuable supplementary source of information concerning the enemy's doings after dark.

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#### 4. Preparations for a New Offensive

Warfare was still relatively static in October, a month marked by limited-objective attacks to get favorable positions for a major offensive and by relieving and resting of troops which had been attacking steadily since 1 August.

As a result, photo reconnaissance continued to play a highly important part. But just at this juncture the photo recce capacity of the Group was cut in half with the loss of the 34th P/R Squadron to the new First Tactical Air Force. This left the 31st Squadron with a big job on its hands, especially in view of the number of photographic requests which had piled up during a period of bad weather.

How much aerial photography was appreciated by the Army was indicated by a letter dated 11 October from Brigadier General John M. Lentz, commanding XII Corps artillery. Referring to "the excellent photographic support provided recently to the artillery of this Corps," he said the counter-battery program for the limited objective attack of 8 October was notably successful due to knowledge of hostile battery locations, the large majority of which were determined from photographs.

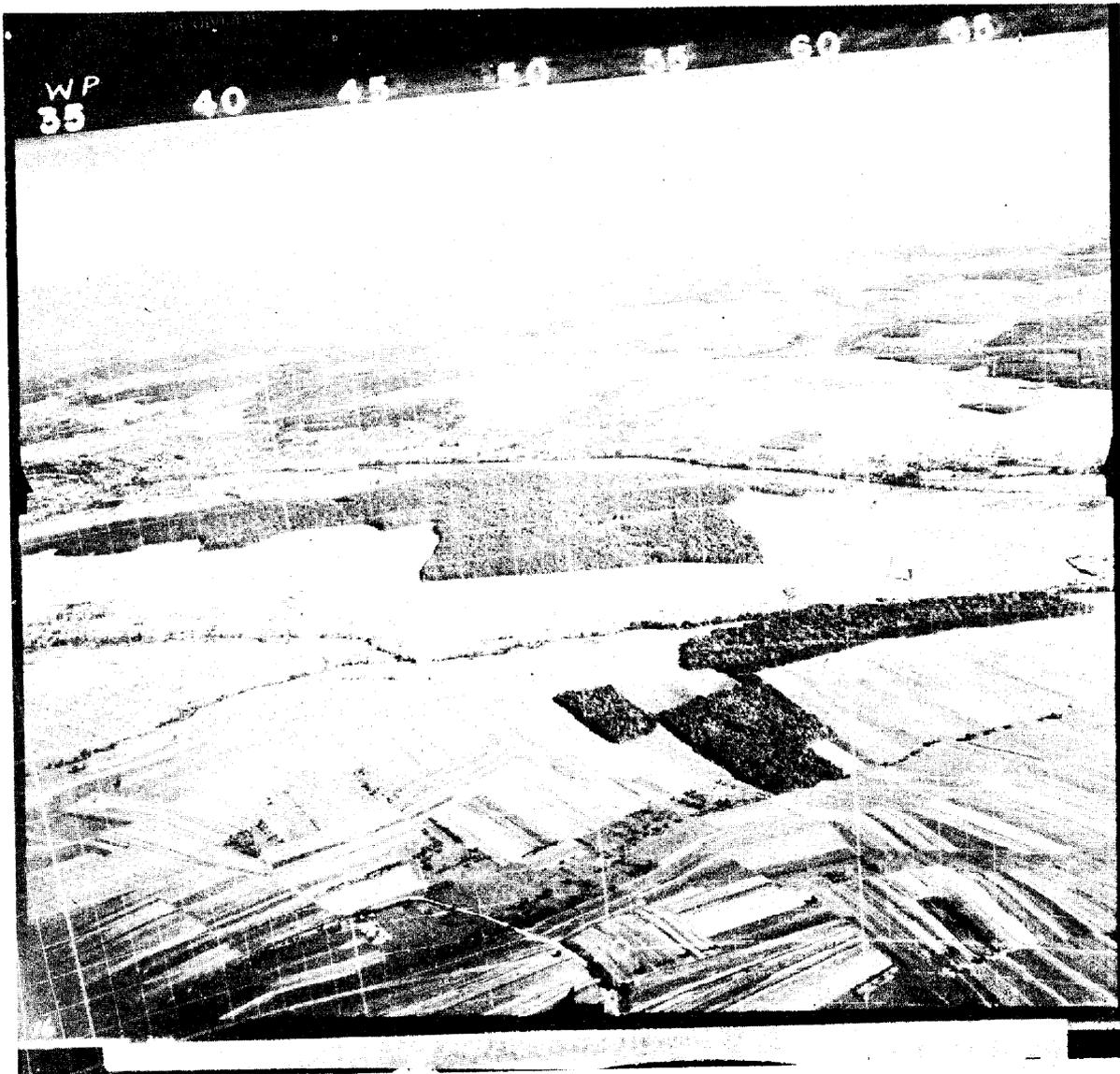
"There is no doubt," he wrote, "that the photography contributed largely to the success of our attack and undoubtedly saved many casualties from hostile artillery fire...The XII Corps Artillery desires to express its appreciation of the fine work done by its Air Corps teammates."

Under a policy announced by Ninth Air Force, the tasks assigned by the Air, such as bomb damage assessment and enemy airfield surveillance, received first priority and all Ground Force requests were assigned second priority. To make the best of this situation, Third Army on 25 October reviewed priorities on all of its outstanding requests. Precedence was given to operational pinpoint photographs requested by the corps. Lower priorities were assigned the daily front-line cover to a depth of 15,000 yards and comparative study of enemy defensive installations.

From the results of photo and visual reconnaissance, Third Army made thorough studies of the SIEGFRIED and MAGINOT LINES and also of enemy delaying and defensive positions exclusive of these fortified lines, preparing

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**MERTON GRIDDED OBLIQUE TAKEN FROM TAC/R AIRCRAFT AND USED FOR ARTILLERY FIRE AND FOR BRIEFING BEFORE AN ATTACK (REDUCED FROM 9 X 9 INCHES)**

and distributing defense traces to the Corps. Other projects completed included terrain analysis, technical studies of roads, streams and bridges; analysis of wooded areas of eastern FRANCE and western GERMANY on Third Army's front to determine suitability for tank operations, possibility of burning, and extent of visibility; and a study of possible airborne landing operations in eastern FRANCE and behind the SIEGFRIED LINE.

Flying of basic photo cover continued, and by the end of the month the cover from the front lines to and including the RHINE RIVER was 90 percent complete and in the hands of the corps.

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5. Breaching the Dieuze Dam

A special project in October was the breaching of the ETANG DE LINDRE dam, three miles southeast of DIEUZE, by fighter-bombers to eliminate the possibility of the enemy using it to flood the projected path of advance of Third Army's XII Corps in the contemplated new offensive.

Target photographs were obtained, and after the successful bombing by XIX TAC's 362nd Fighter Group on 20 October, tactical reconnaissance pilots got good pictures of the breach and the spreading flood waters.

Tactical reconnaissance plans for October called for visual coverage to a depth of 120 miles all along a front approximately 100 miles wide. The area was divided into ten smaller areas of 60 by 20 miles. The five areas immediately to the front were covered three times daily and the outer areas once daily.

Weather greatly hampered operations, however, and 15 days were completely non-flyable, with the result that out of 516 tactical reconnaissance missions requested by the Army and accepted, only 168, or 21 percent, were successful. Artillery adjustment missions fared about as badly, with only 26 successful out of 86 requested. Of the 60 failures, 58 were due to weather, one to enemy air activity and one to communication failure.

On the few flying days of the month, pilots returned with reports of enemy rail and highway movement, V-2 activity and defensive preparations. In some cases their radio reports of particularly juicy concentrations were followed by effective fighter-bomber attack.

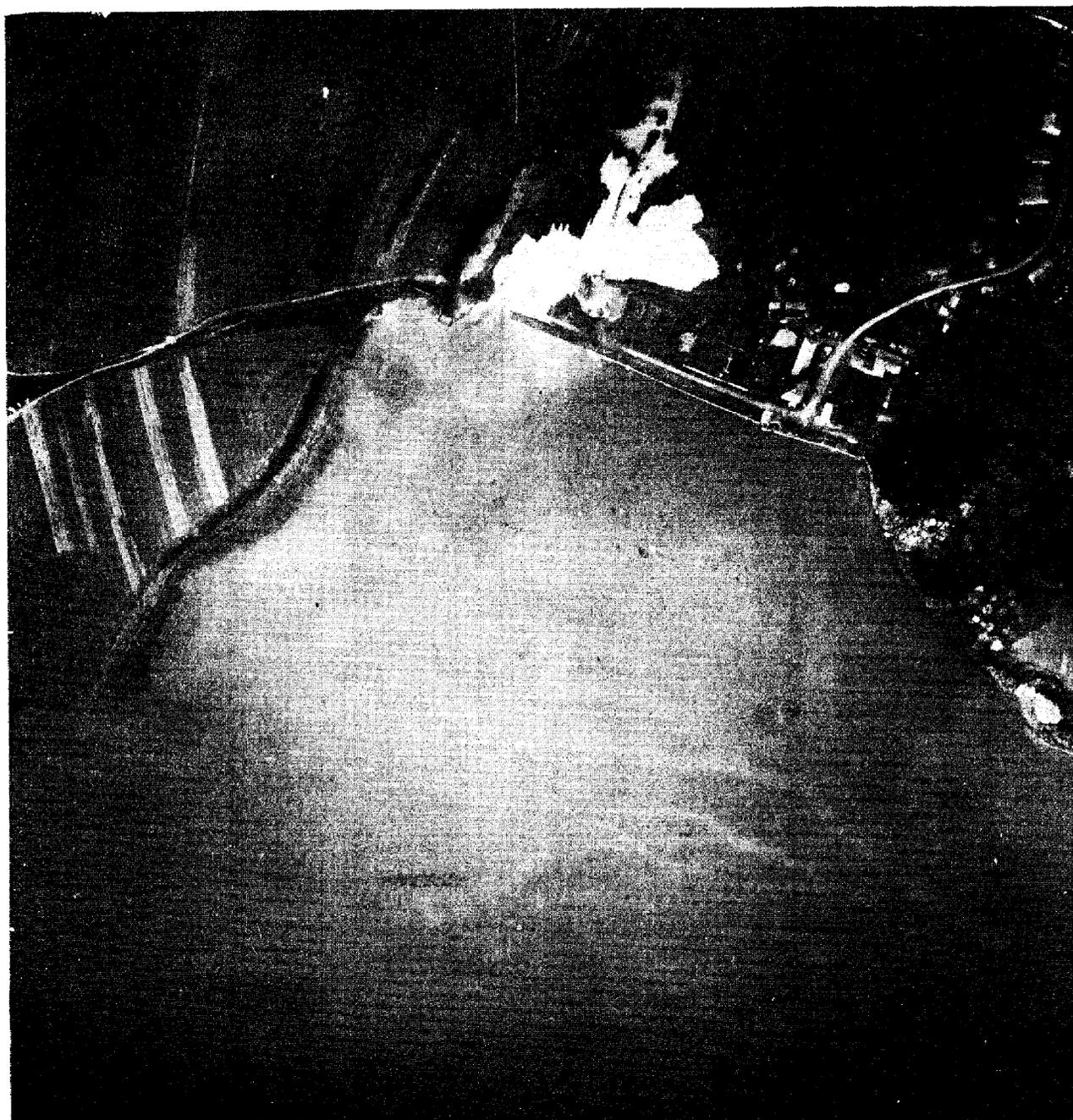
Flak grew more intense as the war settled down to a more static stage. When two 15th Squadron pilots sighted a hole in the clouds a few miles northwest of SARREBOURG and dived for it, they were met by a terrific burst from German guns evidently zeroed in on the break. One Mustang was blown over on its back, but the pilot miraculously escaped injury. The other plane was hit 96 times and the pilot received a slight leg wound. On another mission, earlier in the month, a pilot reconnoitering a suspected rocket-launching site ran into an accurate concentration of flak. His plane received 11 hits.

The German Air Force was beginning to regain its breath after being chased out of FRANCE, and recon pilots were frequently bounced, especially on deep missions into GERMANY. Usually they used their speed to escape, but

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BREACHING OF DIEUZE DAM BY XIX TAC FIGHTER-BOMBERS SHOWN  
BY TAC/R PHOTO TAKEN IMMEDIATELY AFTER ATTACK

when Lts. Khare and Thomas, flying a long route recce, were attacked near WURZBURG by an over-zealous ME-110, they quickly got on the tail of the twin-engine craft and shot it down.

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## 6. The Hunt for the "Phantom Gun"

Taking advantage of the bad flying weather, the enemy in October employed harassing fire from 280-mm railroad guns against various headquarters behind the lines of Third Army including those of XX Corps at CONFLANS and of Third Army and XIX TAC at NANCY. Tactical and photo reconnaissance did not locate the guns, but did discover numerous railroad spurs not shown on existing maps. Third Army sound-and-flash devices and ground intelligence located several possible lairs of the guns, and fighter-bomber attacks on tunnel entrances and bridges, in an effort to destroy or bottle up the guns, obtained good results in some cases.

The climax came on 20 October when Third Army G-2 information from ground sources indicated that a railroad gun was hidden in a shed in METZ. A request for an artillery adjustment mission was submitted at 1515 hours and the planes were over the target at 1645. Acting as flying "finger man" for the US artillery on this occasion was Lt. Lynch, of the 12th Tactical Reconnaissance Squadron, with Lt. Burkhalter as his wingman.

When they arrived in the designated area and Lt. Lynch tried to make contact with the artillery commander, he found communications so poor that contact could be maintained only if the aircraft remained over the radio car. But Lt. Lynch quickly found a way out. Checking with his wingman, he ascertained that radio contact between their aircraft was perfect. Accordingly, he directed Lt. Burkhalter to remain over the artillery commander's car and relay all necessary information.

With this arrangement made, Lt. Lynch called for the first round and at the same time started a very shallow dive toward the objective. In this way he was able to follow the path of the projectile and reach the target at approximately the same time. The first round was observed and corrections relayed to the artillery commander by the pilots, who were meanwhile taking violent evasive action to evade the flak being fired at them from the well-defended city of METZ. A perfect bracket was made, the third round was on the target, and as Lt. Lynch called "Fire for effect," "all hell broke loose," as he later described it. He saw 70 rounds falling in the target area, starting fires and causing explosions. But gathering darkness forced a return to base before the avalanche of shells was over.

Later that night came word of the destruction caused by this closely-coordinated team. The "phantom cannon"

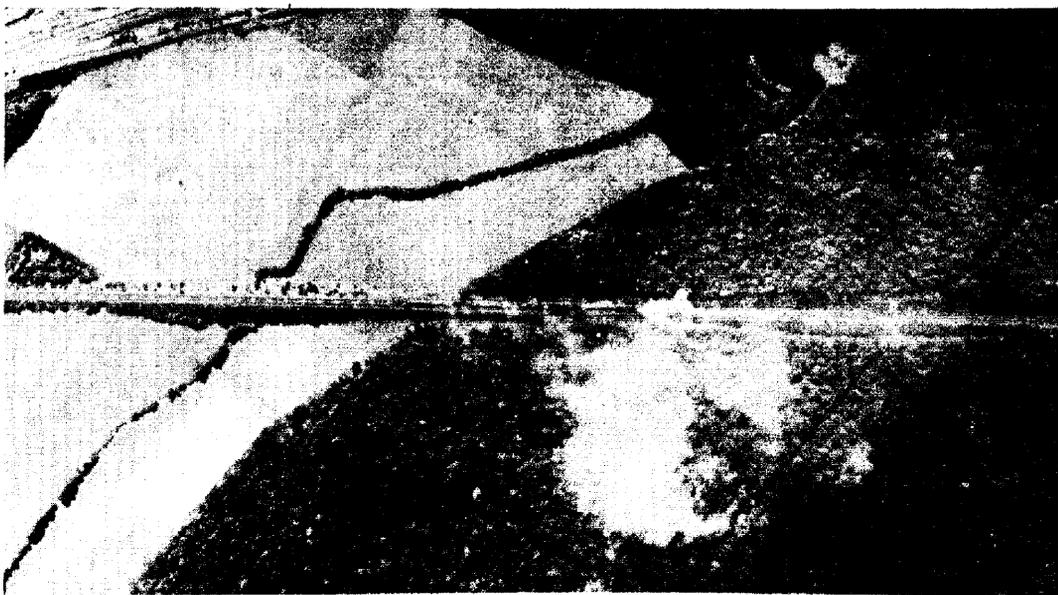
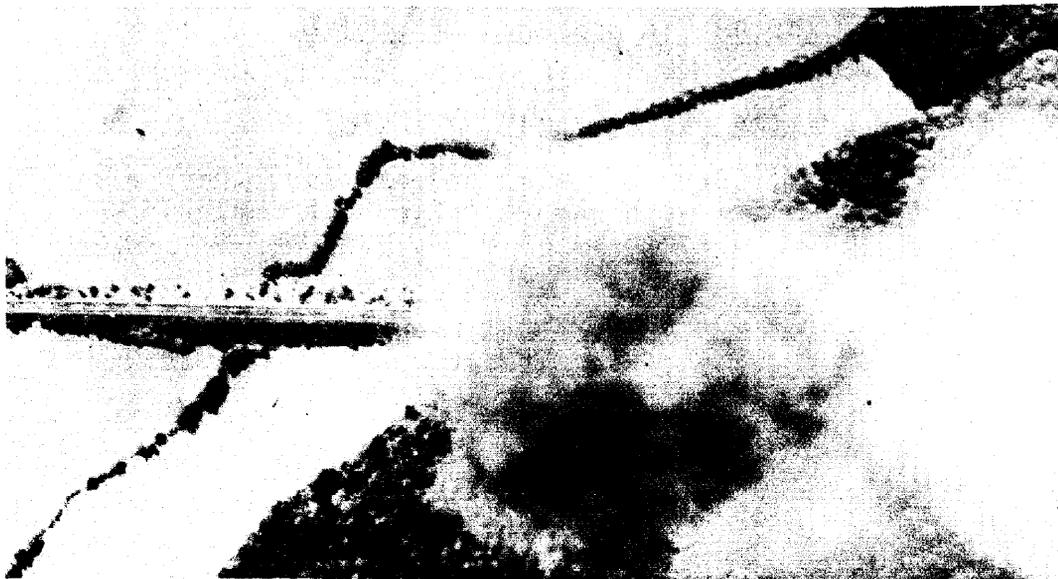
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**TACTICAL RECONNAISSANCE PHOTOGRAPHS OF A NAPALM ATTACK  
ON A TRAIN BY XIX TAC FIGHTER-BOMBERS**

**The upper photo shows smoke billowing up immediately  
after the Napalm hits. The lower photograph shows a  
slightly later stage in the resulting freight-car fire.**

which had haunted, hampered and eluded the Army for weeks  
had been destroyed by 140 eight-inch shells which also  
killed 22 of the gun crew.

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## F. THIRD ARMY'S NOVEMBER OFFENSIVE

### 1. Photos Yield Deadly Dividends

On 8 November, after weeks of preparation, Third Army launched its offensive with the objectives of encircling and eliminating the stronghold of METZ, reaching and penetrating the SIEGFRIED LINE, and proceeding to the RHINE.

Before the jumpoff, photos had been taken of each fort in the METZ system of fortifications and photo cover of the entire terrain in and around METZ was complete. Verticals and obliques had been made of the MOSELLE RIVER crossings, defense traces prepared by Third Army's Photo Center, and collated maps placed in the hands of XX Corps, which had the task of crossing the river.

For the area between the MOSELLE and the RHINE, large-scale map coverage had been old and inadequate, consisting of French and captured German maps. Using photo cover, however, the Third Army Engineer had produced a good revised map of 1:25,000 scale, and on this were overprinted the enemy defenses as shown by the latest aerial photography. Supplies of maps of other scales were checked by Third Army G-2, and terrain models of parts of the SIEGFRIED LINE were delivered to the Corps.

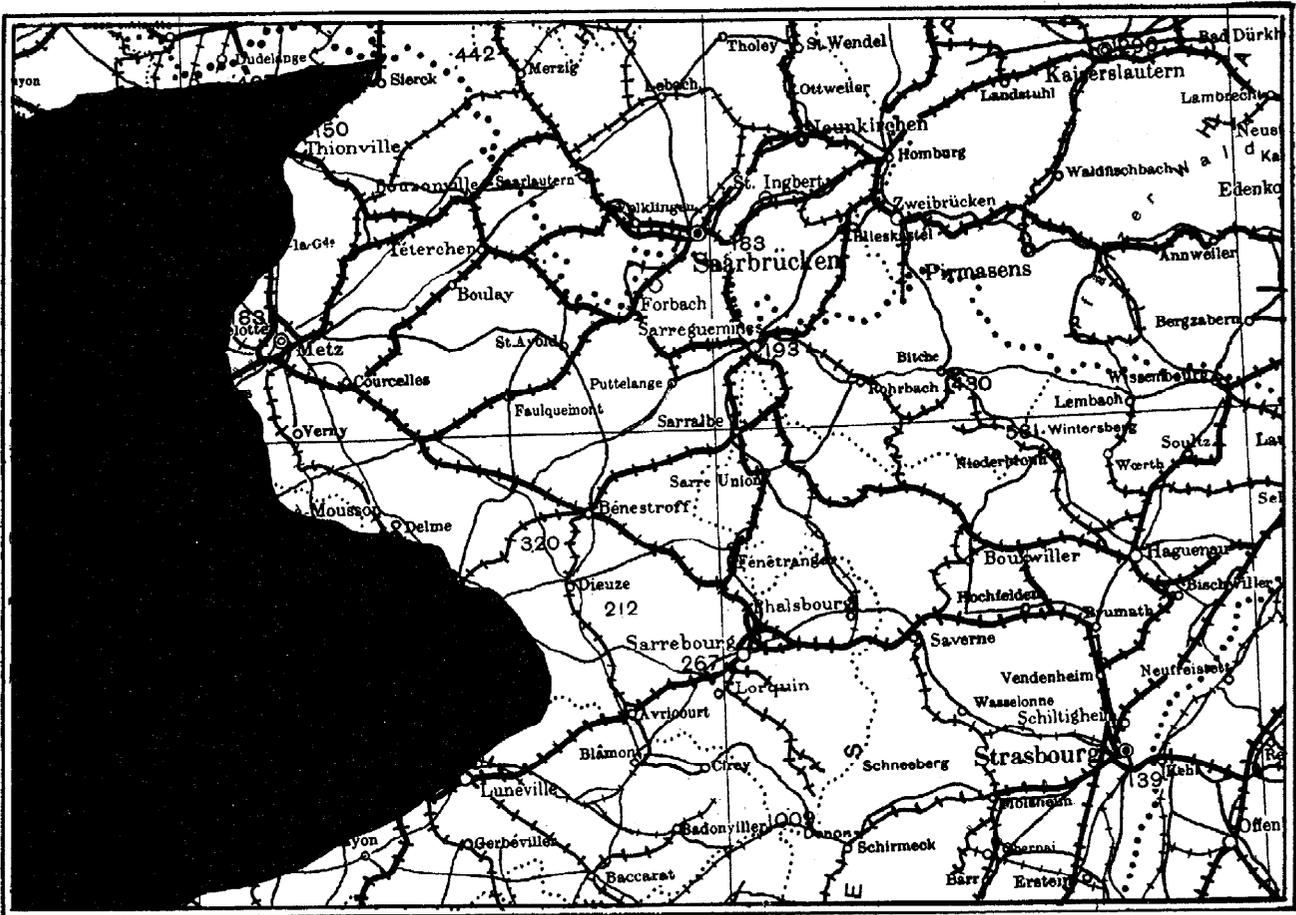
A-2 of XIX Tactical Air Command meanwhile had assembled detailed target material for the widespread air attacks which were to accompany the offensive. Photographs of all known enemy installations suitable for air bombardment were obtained, together with all available information from ground sources. Target photographs were produced by the 20th Photo Interpretation Detachment of the 10th Photo Group, working in the same building with the Third Army Photo Center at the Group's ST. DIZIER base.

On 8 November Third Army attacked, to the accompaniment of highly effective fighter-bomber assaults on command posts and other nerve centers previously photographed by reconnaissance. Heavy and medium bombers of Eighth and Ninth Air Forces lent their weight to the attack, and as the ground forces moved forward, high explosives and incendiaries fell on carefully selected points all the way from the MOSELLE to the RHINE. The thorough reconnaissance during the weeks of stalemate was paying deadly dividends.

When XII Corps jumped off, its artillery barrage hit

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THIRD U.S. ARMY FRONT  
 8 NOVEMBER, 1944

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67 batteries which had been located by reconnaissance, or by sound and flash methods confirmed by photos, and not an enemy shell fell on its advancing troops.

METZ was encircled by XX Corps, occupied on 19 November, and its surviving forts fell, one by one. Meanwhile, by 30 November, XX Corps had advanced to the SAAR RIVER along its entire front and XII Corps had reached the rich coal and industrial centers of the SAAR BASIN.

Detailed plans for large-scale air-ground operations designed to breach the SIEGFRIED LINE (Operations "Tink" and "Teacake") were proposed by XIX Tactical Air Command and accepted by Third Army, but before they could be carried out the German attack on the lightly-held VIII Corps sector of First US Army in BELGIUM and LUXEMBOURG forced Third Army to pivot sharply to the north to attack the south flank of the dangerous salient, marking the beginning of a new phase for the Third Army-XIX TAC ground-air team.

In the phase extending from 8 Nov to 20 Dec, Third Army, in very bad weather, crossed the flooded MOSELLE in one of the great military operations of the war, reduced the powerful fortress of METZ, took 3600 square miles of FRANCE and GERMANY, entered GERMANY almost along its entire front, crossed the swollen SAAR RIVER at the foot of the SIEGFRIED LINE proper, and began a slow penetration into those strong defenses.

As the attack moved forward, changes in the photo requests were made to conform to the changing situation. During November, 23 photo requests were cancelled because the areas had been over-run.

Daily front-line cover was cancelled on 15 November and a new photo cover plan combining routes and areas was adopted. Priority was given first to the designated areas, then to the main roads and good secondary roads leading to the Corps objectives.

Pinpoint photography gave way to strip photography, with corps requesting many oblique photos for planning river crossings and for artillery firing data.

On 26 November, at the request of the corps, front-line cover to a depth of 15,000 yards was again requested for the purpose of disclosing enemy artillery positions. Each night at 1800 hours, the corps phoned in the expected enemy front line of the following morning, with priority

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given to particular areas of interest within the corps. If the missions could not be flown during that day the request was cancelled, to be followed by a new request with new front lines for the next day.

While as many of these missions were being flown as the bad November weather would permit, Third Army's Photo Center completed a detailed study of the road system of Western Germany as shown by photo cover, made a study of possible flooding-- either natural or artificial-- in enemy-held areas on the Third Army front, reported on the condition of bridges and roads up to the SIEGFRIED LINE, distributed 346,232 prints to the corps, reported on 1,885 individual items shown on aerial photographs, and prepared 46 complete annotated traces.

In the face of steadily worsening weather, 31st Photographic Reconnaissance Squadron developed two new camera installations designed to get pictures when cloud base is down around 5,000 feet.

The first is the split vertical 12-inch K-22, which gives the same coverage as a single six-inch camera, but has a better scale and may be used for bomb damage assessment, road strips, river strips and pinpoints.

The other is the "triple twelve" -- three 12-inch K-22 cameras mounted similarly to the six-inch tri-met setup. This was designed especially for army front-line coverage during very bad weather.

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2. Tac/R Reveals Arrival of Reinforcements

On 9 Nov, the day after the attack was launched, a new tactical reconnaissance plan was placed in operation -- a combination of areas and routes.

Eight areas were laid out. Four, on the immediate front of Third Army, were each 20 by 60 miles in dimension and were covered twice daily, weather permitting. The four areas beyond them, each measuring 20 by 30 miles, were flown once daily when operations were possible.

Five routes were selected. These were more strategic in nature, since they dealt primarily with rail and road movement and extended out 250 miles beyond the Third Army front.

On 17 November, because of successes, the areas were advanced 20 miles to the northeast and the routes were reduced to four.

Expectations were realized when, during a two-day period, 17-18 November, huge enemy rail movement was uncovered by tactical reconnaissance. On 17 November more than 300 trains or engines were reported east and west of the RHINE RIVER, the principal movement being to the southwest and west into the zone of Third Army. Many of these trains were reported made up of heavy flat cars of the types used for carrying Tiger and Panther tanks. On 18 November heavy traffic was again noted, with 226 trains observed.

These and other reports indicated that at least one panzer division was being rushed to the area of the Third Army advance.

"It appears that the 10th Photo Group has been, in the late flying days, reporting the trains and flats by types more than any of the other Tac/R Groups," said a memo from Capt. G. C. Chambliss, CAC, 12th Army Group Liaison Officer at 10th Photo Group. "By such reporting the above facts can be established. The Twelfth Army Group has expressed its satisfaction with such reporting and desires that this continue."

On 24 November it was definitely established that the 130th Panzer Lehr Div and the 245th Infantry Div were in the southern portion of Third Army's front.

Again on 26 November considerable rail activity was reported by reconnaissance, its quantity and nature indicating the probable arrival of another division. Three

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days later the 256th Infantry Div was identified on the southern front.

To assist Third Army corps and divisions<sup>o</sup> in their battle against the terrific flood conditions, tactical reconnaissance pilots were asked to report on the extent of overflow of rivers in the area and the serviceability of roads and bridges.

Locations of tank and troop concentrations were also requested by the corps, to substantiate information obtained from ground sources. Close contact was maintained between corps and tactical reconnaissance pilots, and reports were made directly from air to ground.

Tactical reconnaissance broadcasts, which had been started by Ninth Air Force on 26 August, were functioning properly. These broadcasts to all corps and divisions included information not only from the 10th Photo Group but also from the tactical reconnaissance groups with the IX and XXIX TACs, each group being on the air 20 minutes out of the hour.

Early in November, at request of the Third Army Artillery Officer, arrangements were made to reserve for each of the two corps two artillery adjustment missions per day to be used at the discretion of the Corps Artillery. Requests for using these missions were forwarded to the 10th Photo Group over the Army Artillery radio net. Liaison officers from the Corps Artillery at the 10th Photo Group processed the requests and provided the squadron ground liaison officer with material required for briefing the pilots who would fly the mission.

Tac/R pilots continued to shoot down enemy planes that got in their way, and in a 3-day period of good weather from 17 to 19 Nov, 15th Squadron pilots alone claimed 4 enemy planes destroyed and 2 probables. Three of these were JU-87s (Stukas) sighted near WORMS and attacked till our pilots ran out of ammunition.

Said a telegram from General Weyland to all groups of the Command on 19 November:

"Your efforts during the past few days of flyable weather have been magnificent. The Hun is on the run. The Army has its tail up. General Patton highly appreciative of your work. The going may be rough, but if this weather holds our team will crack the SIEGFRIED LINE. Congratulations and keep up the good work."

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### 3. Record Number of Targets for Night Photo

With the onset of winter, night photography became increasingly important, since in the mid-winter months there are twice as many hours of darkness as of photographic light.

Accordingly, more targets than ever before were assigned to the 155th Night Photo Squadron in November. In addition to targets on the Third Army front, many in the AACHEN-COLOGNE area were received from Twelfth Army Group. During the month, 87 targets were covered and 572 photographs interpreted, showing principally motor vehicle movement, trains in RR yards, and new flak positions.

Much rail activity was noted, supplementing daylight tactical reconnaissance in indicating the trend of enemy movement.

Some of the other ways in which night photo missions were aiding Third Army were indicated in a letter dated 7 November 1944 from G-2, XII Corps. It said:

"The night photo missions flown for XII Corps were of very great value for the units of the Corps for the following reasons:

"1. They showed that the enemy was not shifting his forces to any great extent from east to west along our front, as had been expected.

"2. They showed for the first time that areas of flooding existed in areas where we had not expected them or where we had merely suspected their existence.

"3. They showed that areas of flooding did not exist where we suspected them."

In an indorsement, Lt. Col. Russell A. Berg, commanding 10th Photo Group, observed:

"The effectiveness of night photo coverage is clearly illustrated by the above communication from Corps.

"It also shows that negative information is extremely useful to our armies."

Navigation was dependent upon the two Gee Chains which served our target areas -- the REIMS and RUHR -- and all too often trained navigators returned miles off

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target because the "b" signal went out or was hopelessly jammed. It is difficult or impossible to compensate for jamming, but to prevent fading it was recommended that the present stations be moved closer to our area of operations.

With installation of a tail-warning device for rear protection instead of guns, the navigator was moved from the plane's nose to a new position in the rear where the turret was formerly located.

In November night photo missions were untroubled by fire from friendly AA, but one plane which set out on 4 November was never heard from after it left the base.

Hazards of these night missions were many.

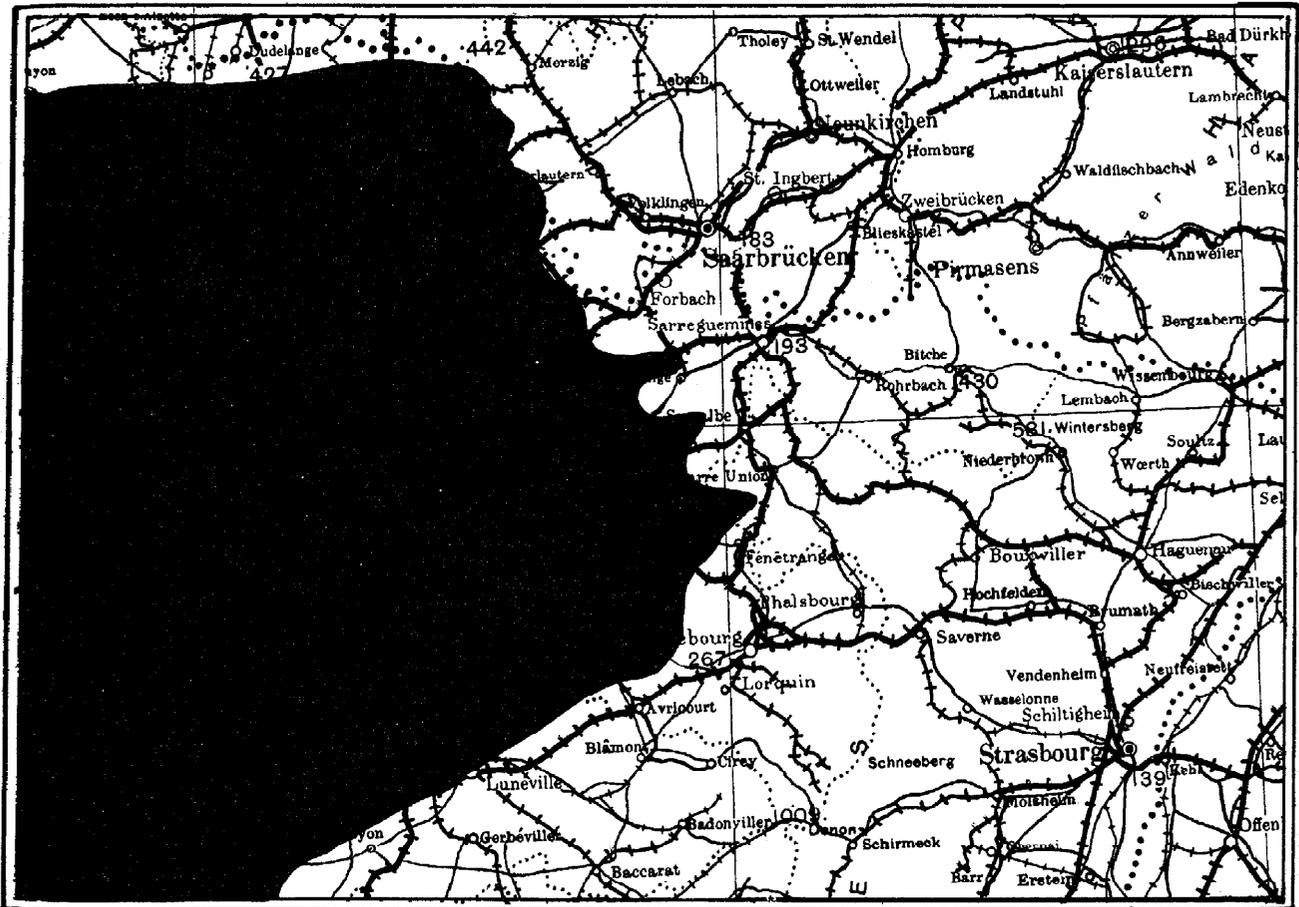
On one mission late in November to photograph enemy movement in front of the First US Army in the DUREN area, one of the F-3s was just starting its photographing run when the ground controller warned of bogies in the vicinity. The run was made and no enemy planes were seen. But another 155th Squadron plane, operating nearby, inadvertently took the picture of one. When its photographs were developed they showed an ME-109 in the air almost directly below the photographic plane. Despite the good moonlight the fighter failed to find the picture-shooting plane above him.

On another mission the following night an F-3 had finished its run and started back over First Army lines when a "buzz bomb" appeared below and US anti-aircraft fire opened up on it with everything in the book. The buzz bomb's course intersected that of the A-20 almost at right angles, with the result that the photo ship above was directly in the line of fire. Prompt firing of the colors of the day stopped the shooting for a moment-- long enough for the A-20 and buzz bomb to part company.

On 29 November, 10th Photo Group moved from A-64 at ST. DIZIER to A-94, near JARNY, west of METZ, but its night photo squadron continued to operate from ST. DIZIER. It had been a month of wrestling with the elements, not only in the air but on the ground. Heavy rains swelled the river at ST. DIZIER, flooding parts of the field and causing a new kind of "retreat from the MARNE."

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THIRD U.S. ARMY FRONT  
1 DECEMBER, 1944

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G. DECEMBER'S DOUBLE DRAMA

1. Slugging at the Siegfried Line

December was a month dramatically parted in the middle.

The first half was devoted to hammering away at the SIEGFRIED LINE in the SAAR VALLEY area, improving positions for a prospective smash through those defenses and into the RHINELAND.

Midway in the month Field Marshal Von Rundstedt launched his desperate counter-offensive into the ARDENNES, lightly held by First Army's VIII Corps on our left, and Third Army found itself suddenly thrust into a crucial rescue role. Turning swiftly northward, General Patton struck hard at the enemy's left flank north of ARLON and LUXEMBURG. The history-making defense of encircled BASTOGNE by the 101st Airborne Div and associated units, and their relief by the hard-driving 4th Armored and other crack Third Army divisions, threw the Nazi time-table completely out of gear and proved the turning point in the enemy's ARDENNES adventure.

Reconnaissance problems during the first half of the month were totally different from those which were to follow.

As XX Corps divisions fought their way into the SIEGFRIED LINE defenses, their bridgeheads beyond the SAAR received the most intense artillery fire encountered by Third Army at any time in the war. The enemy was using a new type of sound and flash suppressor which made location of batteries by sound-and-flash devices extremely difficult. Their location from the air thus became extraordinarily urgent, and the highest priority was given to front-line photo cover to a depth of 15,000 yards. But, unfortunately, weather balked all such missions until 11 December.

Tac/R was requested to be particularly watchful on this score, and many reports of gun position locations and of tracks pointing to suspicious areas were received from F-6 pilots.

The corps also requested location of tank and troop concentrations, and evidence as to the extent of occupation of particular portions of the SIEGFRIED LINE.

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Close radio contact continued to be maintained between corps and tactical reconnaissance pilots, and reports were often made directly from air to ground.

For use in counter-battery fire, both the XII and XX Corps requested oblique photographs for preparation of Merton gridded obliques, and these missions were successfully flown by tactical reconnaissance pilots by 13 December.

Tactical reconnaissance plans had been revised 2 December to provide for area coverage from TRIER to KOBLENZ to MANNHEIM to ZWEIBRUCKEN. The areas near the battle zone were covered three times daily and the outer areas once. In addition to area coverage, four reconnaissance routes were each flown twice daily. These routes covered the main railroad lines and highways as far northeast as KASSEL.

On 2 December, tactical reconnaissance pilots reported considerable rail movement into the Third Army battle area, indicating reinforcement by another infantry division. On 10 December the 719th Infantry Div was identified on the XX Corps front.

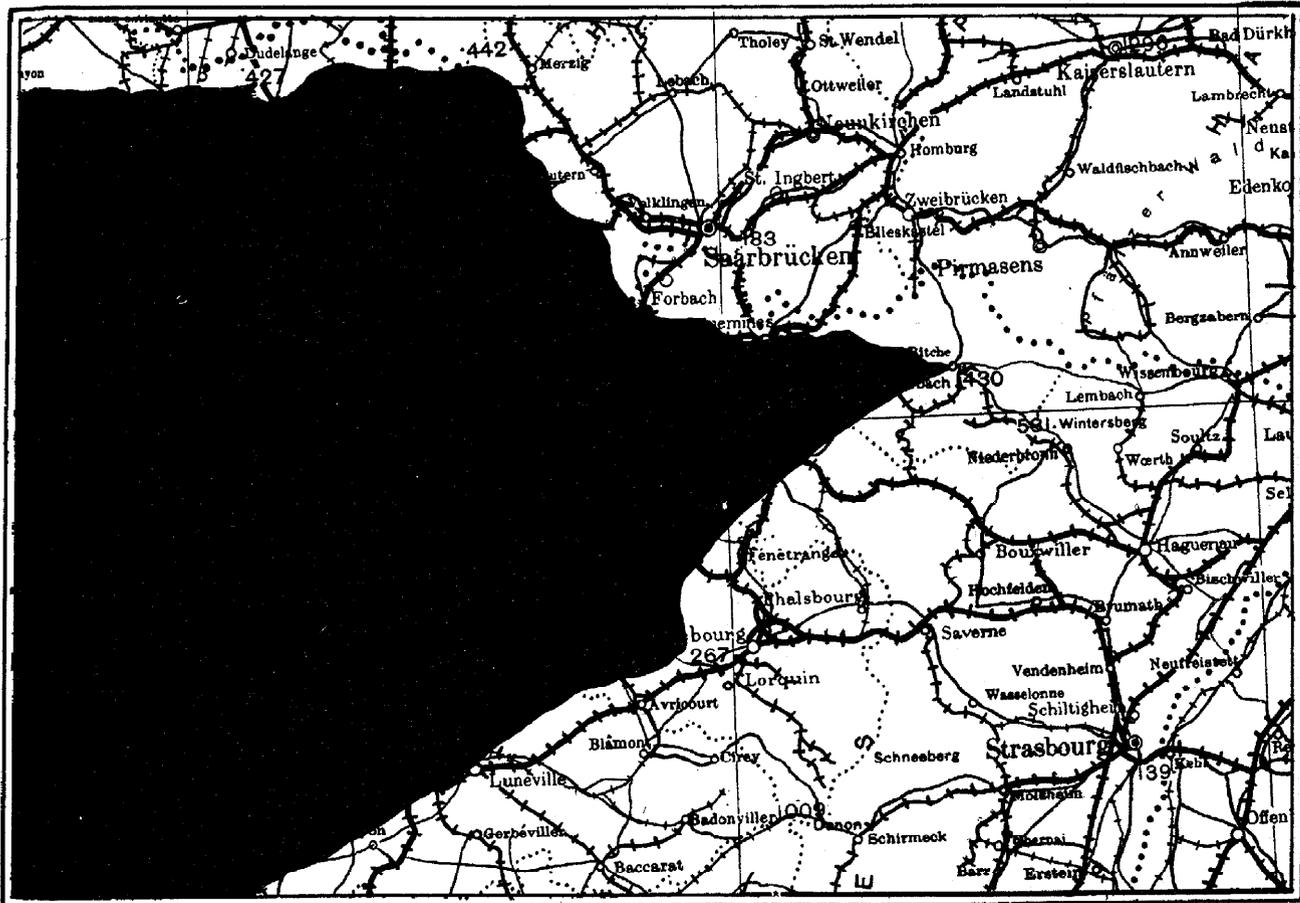
As the Third Army approached the SAAR RIVER information concerning the condition of its bridges became an urgent need. On 5 Dec, despite poor weather, a full report was obtained by a tactical reconnaissance pilot flying at very low altitudes: Lt. (now Capt.) Nichols.

Meanwhile, preparations for a drive into the RHINE-LAND proceeded, with the flying of additional basic photo cover between the SIEGFRIED LINE and the RHINE, the preparation of terrain models, annotated photographs, visibility charts, vectographs and studies of RHINE RIVER crossing sites by the Third Army Photo Center.

But on 16 December the enemy's sudden smash into the ARDENNES transformed the entire picture. Third Army and XIX TAC swung north to meet the menace in LUXEMBOURG and BELGIUM.

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THIRD U.S. ARMY FRONT  
15 DECEMBER, 1944

## 2. The Ardennes Counter-punch

Rundstedt's breakthrough into the ARDENNES on 16 and 17 December was made under cover of some of the worst flying weather of the winter. Nevertheless, it was up to tactical reconnaissance to find the enemy and also report the position of friendly troops in the wildly confused situation which resulted from the enemy's swift panzer thrusts into American rear areas in BELGIUM and LUXEMBOURG.

Tactical reconnaissance was intensive over the breakthrough bulge and coverage was extended over 12 areas running from COLOGNE to MAINZ to SAARBRUCKEN to MONTMEDY to north of CHARLEVILLE to south of LIEGE and back to COLOGNE, a total of approximately 10,000 square miles.

Recce pilots flew several missions under almost impossible flying conditions. Outstanding was a mission performed by Capt. Travis of the 12th Tac/R Squadron on 21 Dec while some of our troops were cut off and surrounded northeast of BASTOGNE. Just where the enemy was, and how strong, was not definitely known. It was recce's job to find out. Capt. Travis and Lt. Newman had tried to get the information on the 19th, but weather forced them to turn back. On the 21st the situation was becoming critical, so Capt. Travis took off alone, without an escort, to try to get through to the target area at all costs.

The weather was about as bad as it could possibly be: Ceiling 50 feet, visibility 100 yards! Capt. Travis located the target area and made his first pass, but the overcast was too low. He climbed above it to see if he could find a hole. No such luck. He then asked the controller for his position and went in on the deck to get the information or bust.

There were enemy vehicles all over the area as he came in over the treetops, and he was receiving constant fire, but he got the desired information and returned safely to base with it. In all, he had made four attempts, finally getting through to the target on the fourth try.

As the Germans pressed on toward the MEUSE under cover of low clouds and Third Army divisions groped in to the ARDENNES to hit them in the southern flank, General Patton offered a prayer supplicating the Almighty to send "fair weather for battle."

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On 23 December a wonderful period of fair weather arrived on the wings of what the weather man calls a "Russian high" -- a mass of dry, stable air from the east-- and for more than a week good flying and fighting weather prevailed. No longer was the enemy screened from air observation and air attack.

Heavy movement of tanks and motor transport was observed, and information radioed both to fighter-bombers and to the Third Army corps driving northward in BELGIUM and LUXEMBURG. All roads and railroads leading into the breakthrough bulge were under constant watch.

In an increasing number of cases, recon planes, after reporting targets by radio, were able to lead the fighter-bombers to the target, thus permitting attack without loss of time and increasing the number of combat missions which could be crammed into the short December days.

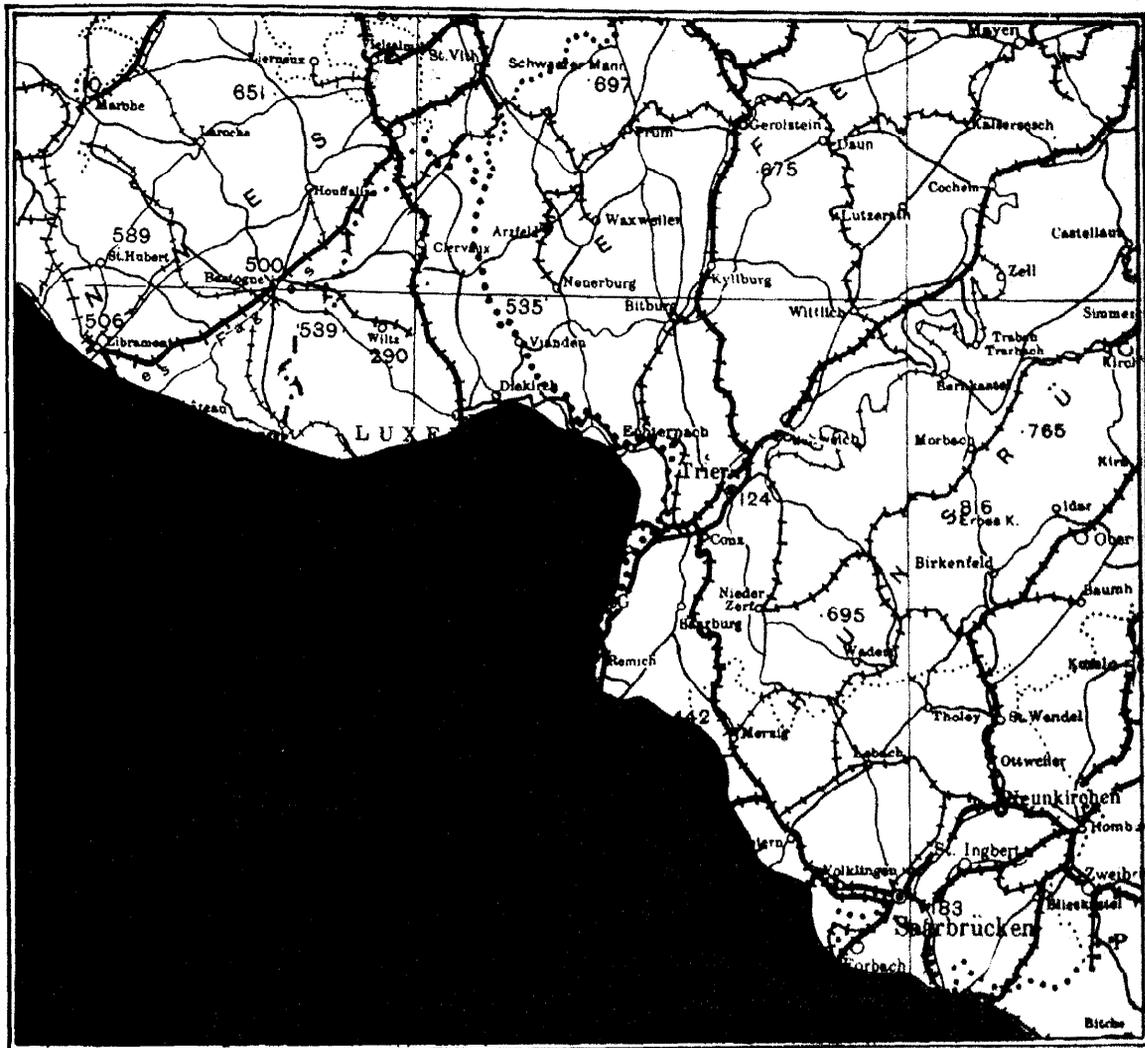
A critical zone was the TRIER-MERZIG area, where the right flank of XII Corps lay open to a possible enemy attack. To guard against an enemy buildup in that quarter, Third Army requested destruction of the bridges over the MOSELLE and SAAR RIVERS. Further, a special tactical reconnaissance mission, to be flown daily, was requested to spot any attempt by the enemy to increase his forces in this area. The XIX TAC responsibility here was somewhat similar to that of August and September when General Patton turned over to the air the task of watching and protecting his long right flank on the LOIRE.

An important photo recon task initially was to obtain front-line cover in the breakthrough area to aid in determining enemy locations and dispositions. The first request was made on 23 Dec and successfully flown the same day.

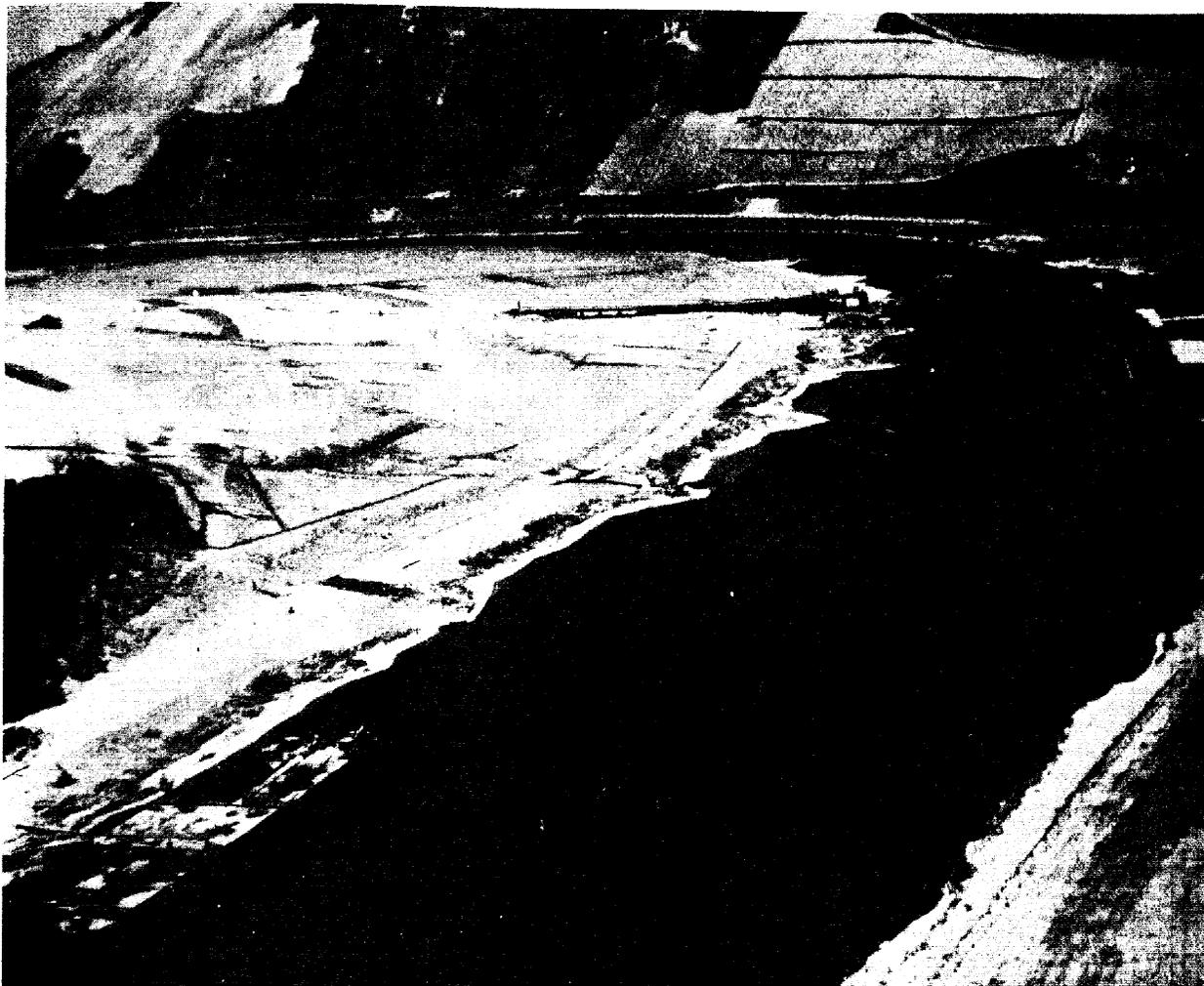
With the Third Army taking over part of the First Army area and turning over to Seventh Army much of its former front in the SAARBRUCKEN area, the necessary photographic cover was exchanged. In addition, to fill in a gap in available photo coverage, new cover of the NEUFCHATEAU-SEDAN-DINANT-MARCHE area was requested and the mission completed by 31st Photo Reconnaissance Squadron on 27 December.

The 101st Airborne Division, cut off in and around BASTOGNE, lacked photo cover of the area. Accordingly,

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THIRD U.S. ARMY FRONT  
18 DECEMBER, 1944



LOW-LEVEL "DICING" PHOTOGRAPHY OF THE SAAR RIVER SHOWED  
HOW THE GERMANS WERE CROSSING

This F-5 nose camera shot shows barges (left foreground) which were dispersed along the banks and moved into position (upper right) when needed to form a bridge. This SAAR flank was closely watched for the Third US Army.

arrangements were made for a special mission to drop photos packed in the empty belly tank of a 31st Squadron F-5. The first attempt, on Christmas Day, was successful, but when two pilots attempted to drop additional photographs on the following day, both failed to return--doubtless victims of the intense flak which also brought down many of the transport planes dropping supplies to beleaguered BASTOGNE.

a. Recce Byproduct: 7 Enemy Planes Destroyed in a Day

With the launching of the German counter-offensive into the ARDENNES, the Luftwaffe suddenly came to life and encounters with German fighters came much more frequent.

One crack recce pilot, Capt. John Hoefker, of the 15th Squadron, came home on the 17th with the remarkable record of 3 $\frac{1}{2}$  Nazi planes destroyed in one day. Two ME-109s bounced Hoefker and his wingman, Lt. White, near GIESSEN, separated the two and pressed the attack on Hoefker. The veteran blasted the first Nazi out of the sky with one two-second burst fired at 150 to 25 yards range. The second made his pass as the first crashed, but Hoefker turned inside him, got on his tail and shot him down. A few minutes later, the captain was flying south down the Autobahn highway looking for his wingman when he met an FW-190 instead. The wingman, White, came along in time to see the FW burning on the ground; this German had been more fortunate than his late comrades. He at least was able to bail out. After this slight interruption, Hoefker and White completed their recce. They were on the way home when a JU-188 crossed their path. Both fired and as the plane went down four of the crew bailed out.

On that one day, 17 December, the two Tac/R squadrons claimed 7 enemy planes destroyed, scoring higher for the day than most fighter groups.

For cooperation rendered at BASTOGNE the 15th Tac/R Squadron received a commendation from the 101st Airborne Div. A great deal of this help was from missions flown by Capt. John Hoefker. Capt. Hoefker flew four visual recces in the Bulge area. On two he was shot down by enemy flak from the intense concentration Rundstedt employed. Much valuable information was reported.

On 23 Dec, Capt. Hoefker's P-51 was hit by light flak, but he managed to fly his crippled plane to the front lines, was picked up by 4th Infantry Div troops and was soon flying missions again.

On the 26th Capt. Hoefker observed an enemy column of 15-plus Panther or Tiger tanks and 5-plus motor vehicles moving toward a column of US tanks. Realizing time was short, he circled over the enemy tanks, in sight of the American column, dived and fired his guns at the enemy column from an altitude that could be observed by the American tank column. He circled the American column and returned to the enemy convoy until the US tanks deployed into battle formation. In addition he made eight sightings of motor transport and reported their position.

On the 27th, Capt. Hoefker reported 2 enemy tanks, 19 locations of enemy vehicles in groups of 3 to 100, and 12 gun emplacements. On 29th Dec he reported 6 dug-in enemy tanks, 3 small convoys of enemy vehicles, 3 small convoys of unidentified vehicles, and a large concentration of enemy vehicles concealed in the woods. On 30th Dec his reports included 8 tanks in two locations, 13 sightings of enemy vehicles, and a report on the enemy vehicular concentration observed the previous day.

All of these missions were flown at an altitude of 2500 to 3000 feet, and on 31 Dec, Hoefker had to bail out for the second time in five days when his plane was hit by light flak. This time he was in enemy territory, but by covering himself with his white parachute in the snow he escaped notice. Hungry and half frozen, he eventually slipped through the German lines and reached an American outpost. "I've been scared before," he said, "but never for so long."

Even the 31st Photo Reconnaissance Squadron claimed an enemy fighter destroyed, though its F-5s carry no guns. On 23 December the Squadron S-2 called the Group Intelligence Officer and said, "We shall not be outdone. Chalk up the 31st with one FW-190 destroyed." A little perplexed as to how an unarmed F-5 could bag an FW-190, the Group S-2, Lt. Col. Richard B. Hibbert, asked, "But how?" The following report was the answer:

"Lieutenant James M. Poole, Jr., while flying over EUSKIRCHEN, was attacked by four FW-190s, which left fighter formation to attack. Lt. Poole hit the deck and the enemy aircraft pursued. Three finally gave up, but one continued the chase. Attempting to follow Lt. Poole in a vertical climb, in which he was literally hanging by his props, topped off with an Immelmann, the FW was seen to spin in and crash."

Toward midnight of 17 December, 10th Photo Group Flying Control reported the field being bombarded by unidentified aircraft dropping propaganda leaflets. The leaflets were found to be printed in German and later investigation disclosed the droppers to be British planes slightly off course. The general comment was that it was lucky the Lancasters had been carrying paper instead of bombs.

To support his attack the enemy greatly increased the scale of his own air operations, dropping parachutists as well as bombs, and special precautions were taken at all airfields, including the rounding up of doubtful civilians. On Christmas night a JU-88 which tried to attack the airfield was shot down by AA fire.

b. Photo History Made in Long Nights of December

The German counter-offensive into the ARDENNES came not only at a time of bad weather but also at the period of the year when days are shortest. This automatically put a heavy premium on night photography, and the 155th Night Photo Squadron had the busiest month in its brief but steadily brightening history, flying 99 missions. Among them were some at Christmas time which Major General Hoyt S. Vandenberg, commanding Ninth Air Force, described as "the outstanding performance of night photography done anywhere at any time."

In a letter of commendation, General Vandenberg said:

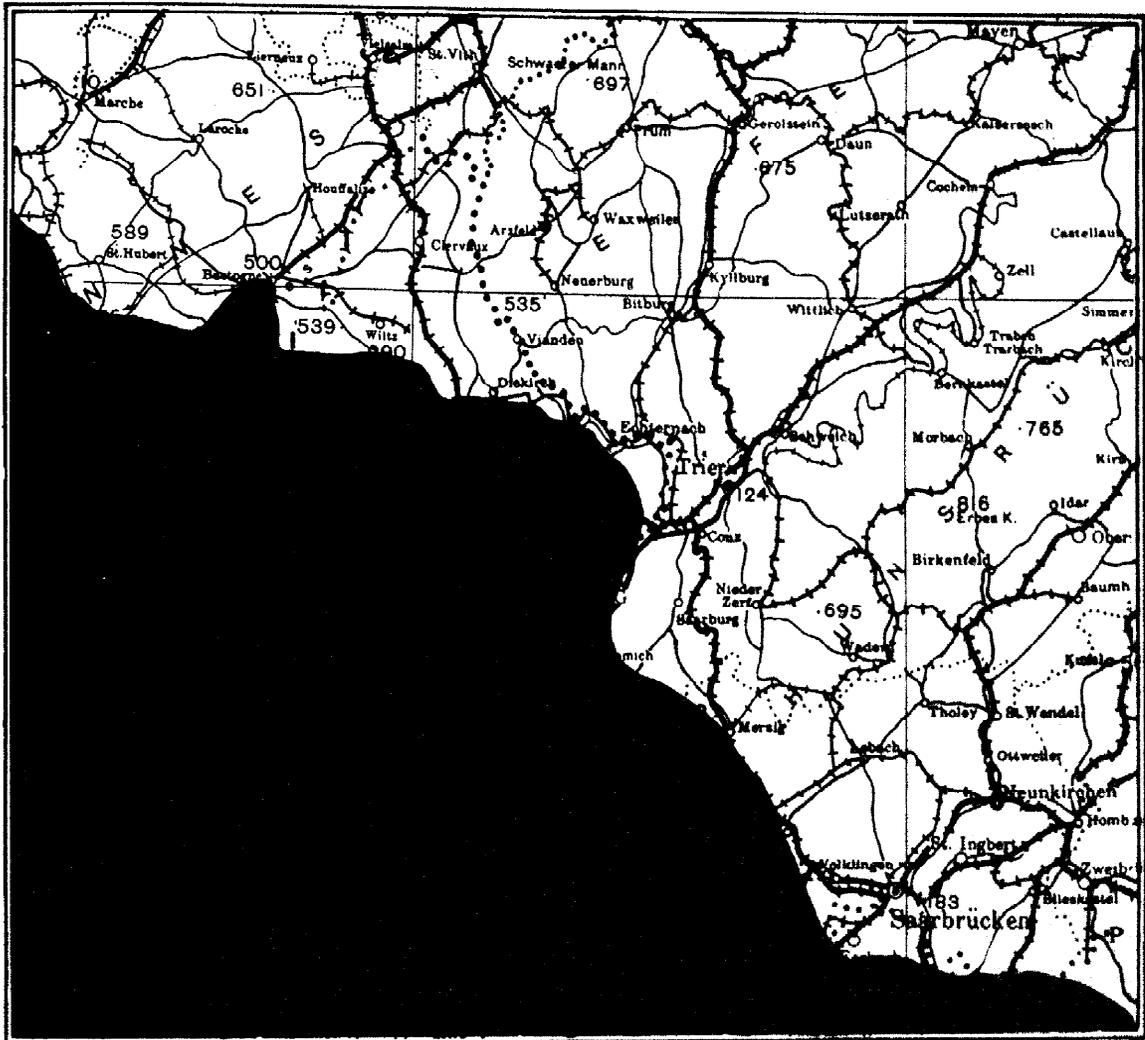
"I would like to commend the efforts which the 155th Night Photo Reconnaissance Squadron has made since 14 December, especially since 22 December, and with particular reference to the very fine performance on Christmas Eve. The intelligence derived has been of exceptional value in this very critical phase of our operations. Their operations of 24-25 December without doubt comprise the outstanding performance of night photography done anywhere at any time. My congratulations and may we have more."

General Weyland added: "I wish to add my appreciation for the outstanding success of 155th Squadron operations during the current battle."

Photographs showing the direction and size of German movements in the breakthrough area were urgently needed, and beginning on 17 December the squadron ran missions each night there was the faintest possibility of getting pictures, sending out aircraft again and again if satisfactory coverage was not obtained on the first sortie. Highway strips and road communication centers were the most frequent targets in the breakthrough area.

Pictures of the marshalling yards at ST. VITH, taken on 23 December by Lts. Porter and Meltzer, showed a large concentration of RR cars and locos, and three squadrons of heavies were sent out to bomb the yards, followed up by the RAF at night. Missions flown by Lts. Loomis and Reeves on the 24th and by Lts. Williams and Smith on the 27th showed the roads and rail lines to be almost completely blocked.

On Christmas night crews operating from the home base at ST. DIZIER covered satisfactorily 13 out of 17 targets.



THIRD U.S. ARMY FRONT  
31 DECEMBER, 1944

Next night they got 7 out of 11, and the third night they covered 14 out of 16. And this despite strong night fighter opposition and AA fire-- from friendly as well as enemy guns!

Enemy aircraft were busier by night in December than for a long time, and planes sighted included the first jet-propelled aircraft seen at night in this area.

Three crews sent north to operate temporarily from A-89 encountered about every kind of excitement in the lot of a night fighter.

On Christmas Eve, Lts. Camp and Kezziah were pursued from a heavy concentration of enemy flak by night fighters who shot more than 45 holes in their aircraft, slightly wounding both pilot and navigator.

On Christmas night Lt. Bielinski was chased from his target by two or more ME-210s or 410s, who, in their turn, were probably pursued by two or more of our own P-61s. As he fireballed toward the field the radar controller shouted at him: "Can't you go any faster? Six of the bastards are closing in on you." Four hundred miles an hour proved fast enough, and Lt. Bielinski landed his aircraft and crew safely; but one of the night fighters was so enraged at loss of his prey that he buzzed the field, trying to strafe a lone gas truck that was ambling along the perimeter.

The following night as Lt. Bielinski came over the field for a landing, one gun opened up, "test firing," and it seemed as if every other gun on the field opened up with it. Miraculously, the aircraft was not hit.

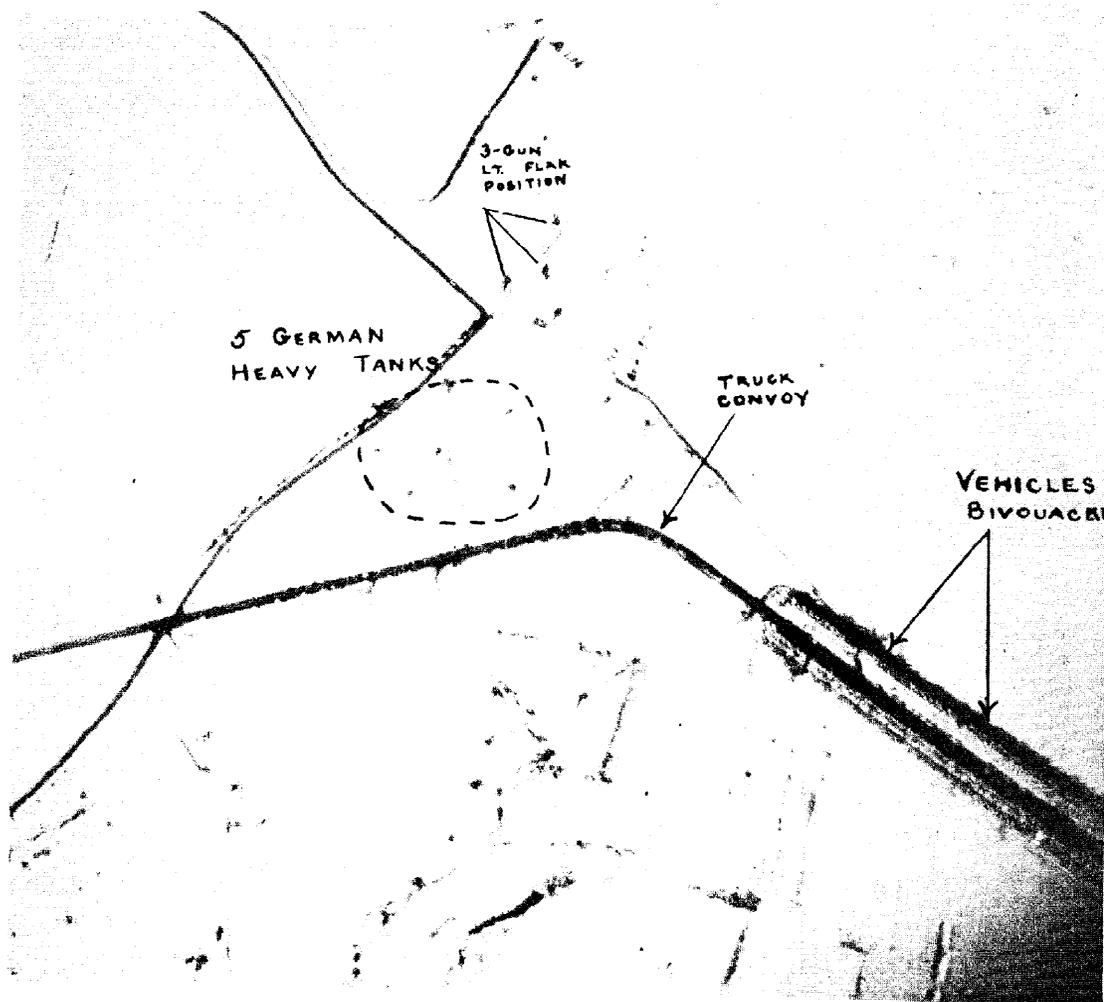
On this same night, Lt. Anderson was caught on his target run by a night fighter which gave hot chase. In violent evasive action, Lt. Anderson winged over and down to the deck, pulling out with such an excess of G that both ankles of his gunner were broken.

On several other occasions the tail-warning devices, which ring a bell in the pilot's compartment, have been set off, indicating the presence of aircraft. This device may have saved the lives of more than one crew. Not so, however, with Lt. Barnes, who took violent evasive action when his tail-warner went off at 7,500 feet. The only enemy he had there was rain.

The month, however, was not unmarred by loss. An A-20 returning from a dangerous mission on 22 December in which both enemy and friendly AA fire had been encountered, skidded on ice on the runway and struck a

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**NIGHT PHOTOGRAPHY REVEALS A GERMAN CONCENTRATION JUST INSIDE BELGIUM ON THE BULLANGE-MALMEDY ROAD DURING THE CRITICAL BREAKTHROUGH PERIOD (FLASH BOMB PHOTO, 22 DEC 1945)**

parked P-47, fatally injuring the navigator. On 19 December an A-20 with a new crew took off on a local training flight and disappeared without trace in broad daylight. Nothing has been heard of the aircraft and its four occupants.

The squadron was hampered but not blocked in its work by the cancellation of the RUHR Gee Chain. The enemy captured one of the slave station sites, thus making the maps useless without a computer.

During the month, the Squadron's Camera Repair Section installed in two aircraft a dual camera which covers twice the area covered by a single K 19 B.

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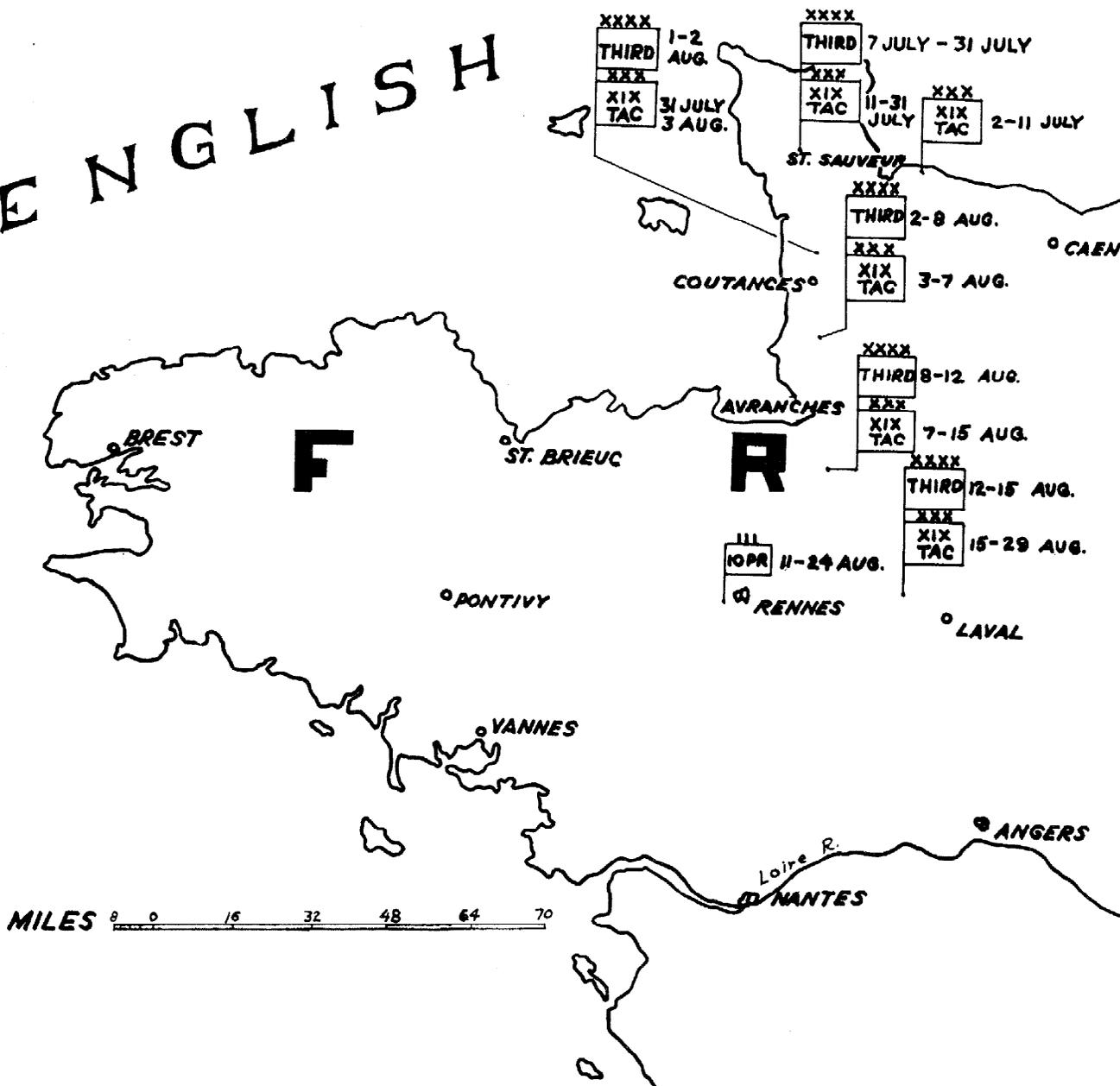
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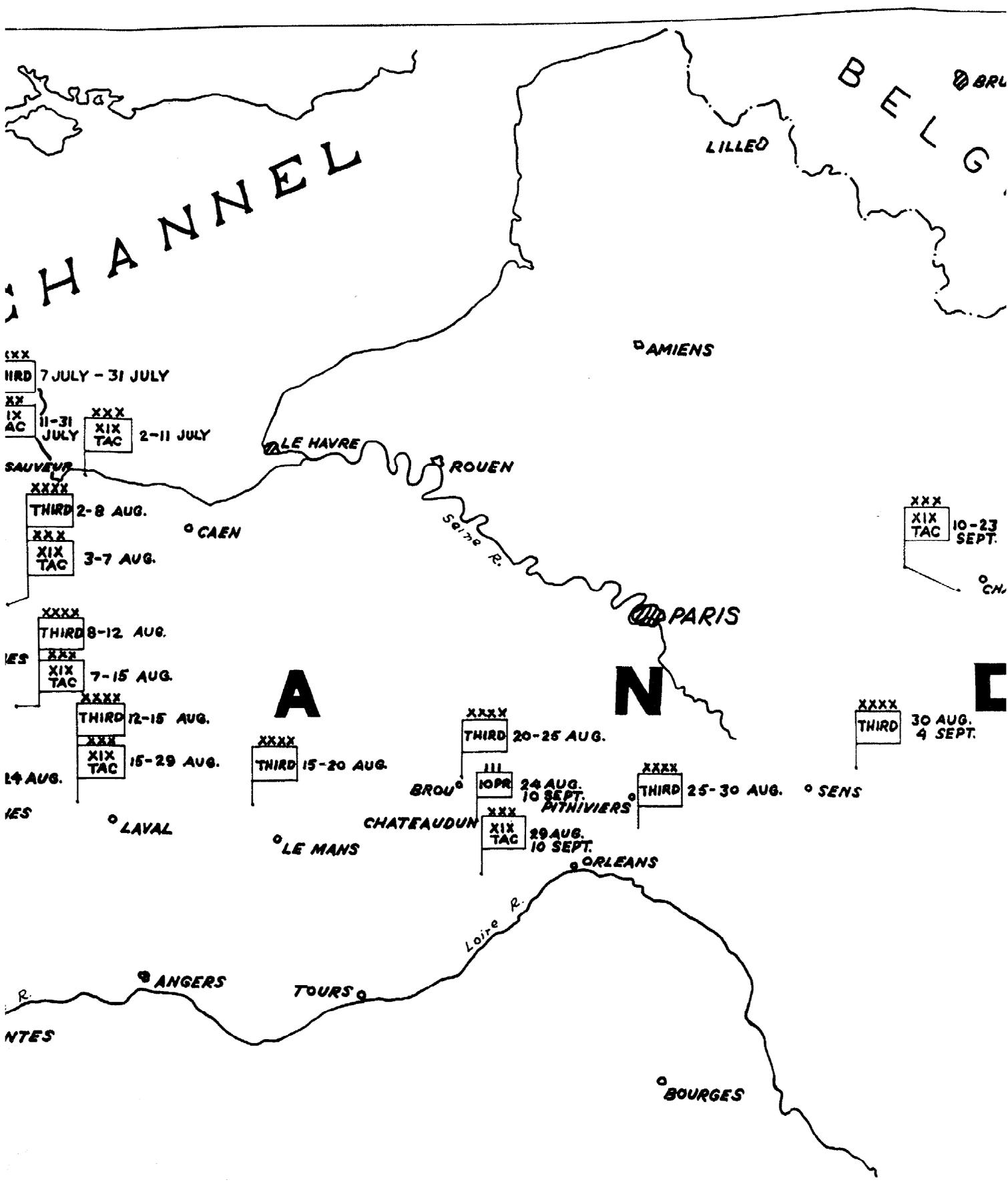
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**COMMAND POSTS of THIRD ARMY  
and XIX TAC and BASES of  
10<sup>TH</sup> PHOTO GROUP, RCN,  
DURING 1944 CAMPAIGN**

ENGLISH

CHANN





XXX  
HRD 7 JULY - 31 JULY

XX  
IX  
AC 11-31 JULY  
XXX  
XIX  
TAC 2-11 JULY

SAUVEVE  
XXXX  
THIRD 2-8 AUG.  
XXX  
XIX  
TAC 3-7 AUG.

IES  
XXXX  
THIRD 8-12 AUG.  
XXX  
XIX  
TAC 7-15 AUG.

14 AUG.  
IES  
XXXX  
THIRD 12-15 AUG.  
XXX  
XIX  
TAC 15-29 AUG.

XXXX  
THIRD 15-20 AUG.

XXXX  
THIRD 20-25 AUG.

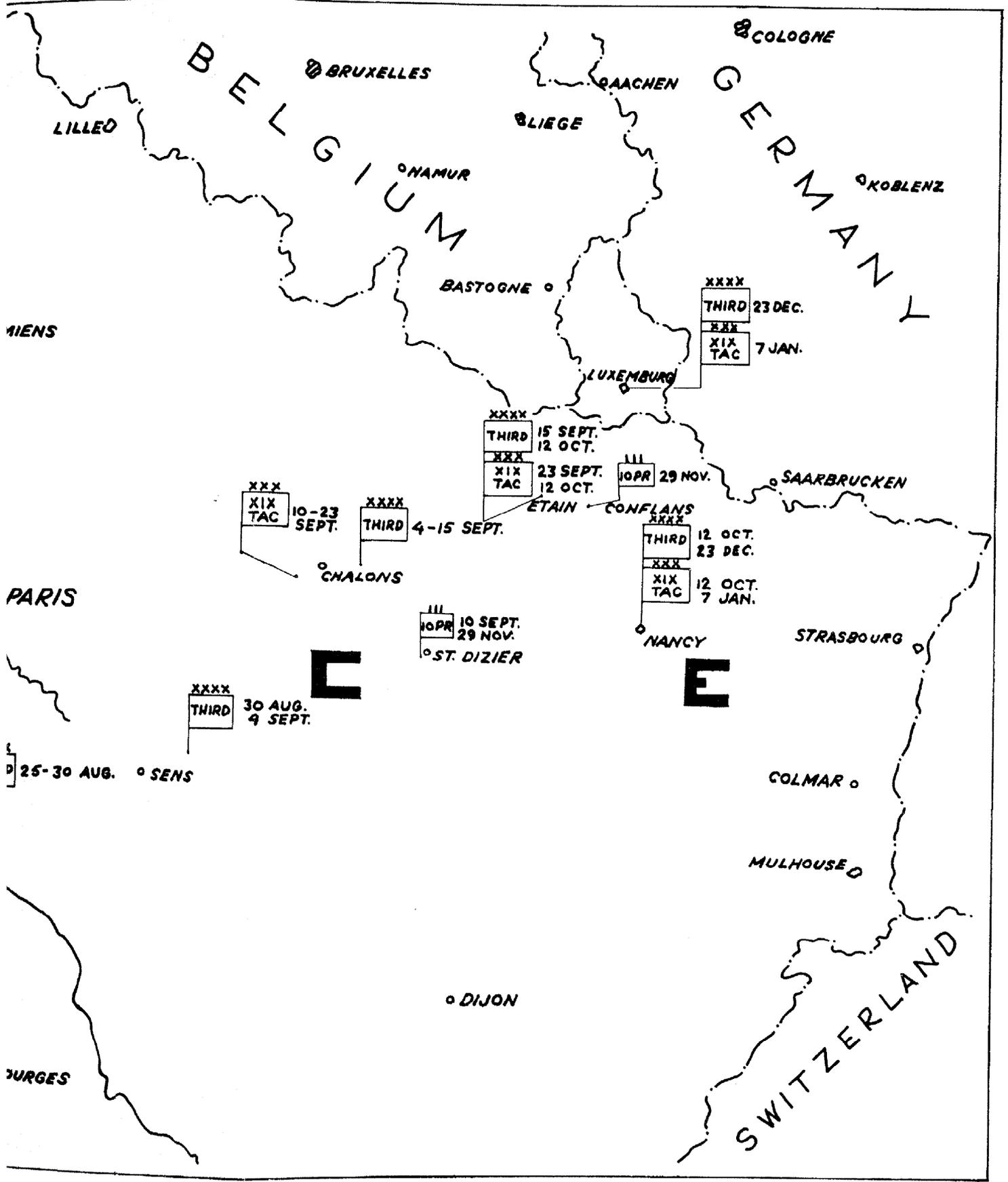
BROU  
III  
IOPR 24 AUG.  
10 SEPT.

XXX  
XIX  
TAC 29 AUG.  
10 SEPT.

XXXX  
THIRD 25-30 AUG.

XXXX  
THIRD 30 AUG.  
4 SEPT.

XXX  
XIX  
TAC 10-23 SEPT.



PART II UNCLASSIFIED

NOTES ON ORGANIZATION;  
TECHNIQUE AND TACTICS

A. ORGANIZATION.

1. Command:

a. The operations of the 10th Photo Group, Reconnaissance, are coordinated and controlled through the XIX Tactical Air Command Reconnaissance Staff Officer. The Staff Reconnaissance Section, which is under the supervision of AC of S, A-2, consists of two officers and one enlisted man and is an integral part of the Combined Operations Section. Each of the Reconnaissance Officers is an experienced recce pilot from the 10th Photo Group, who is completely familiar with the capabilities and limitations of Tac/R and P/R units assigned this Command.

b. G-2 (Air), Third US Army, maintains a section consisting of three qualified officers and five enlisted men as part of Combined Operations Section, XIX Tactical Air Command. This section coordinates the requests of all Third Army Units for Tac/R and P/R and submits approved requests to the Staff Recce Section.

c. The Staff Reconnaissance Section coordinates and consolidates the requests from Third US Army, XIX Tactical Air Command and Ninth Air Force and prepares the plans for the employment of the Tac/R and P/R units. These plans are then transmitted to the 10th Photo Group for execution.

d. Results of missions performed under such plans flow back through the Staff Recce Section, where they are immediately disseminated to the G-2 (Air) Section, A-2 Section, XIX Tactical Air Command, and Ninth Air Force.

e. The Recce Section and G-2 (Air) Section are located in the same office to reduce to a minimum the time required to disseminate information. The Recce Section is provided with direct telephone (red line) to the 10th Photo Group. The G-2 (Air) Section also has telephone communication facilities with Third US Army and each Corps.

f. Pilots returning from Tac/R and P/R missions are interrogated by the unit S-2 and by the Ground Liaison Officers (GLO) furnished by Third US Army and attached to the 10th Photo

Group. Urgent or pertinent information obtained by interrogation is telephoned by the GLO directly to the G-2 (Air) Section within 15 to 30 minutes after the pilot has landed, depending on the time required for him to park the airplane and reach the interrogation point from the dispersal area, which may be as much as two miles away. Such information is immediately telephoned by the G-2 (Air) Section to the Corps or Corps concerned and to Third US Army. Detailed interrogation reports are telephoned to the Recce Section within 30 minutes to an hour after the pilot has landed. The information is then disseminated immediately to the G-2 (Air) Section, which telephones the detailed reports to each of the Corps and to Third US Army. For confirmation, written interrogation reports are sent by courier to Third US Army and to each Corps. These written reports are received by the Corps eight to twelve hours after the mission has been flown.

g. Ninth Air Force Memorandum 100-78 provides for regular hourly reconnaissance broadcasts by the Reconnaissance Groups of the Tactical Air Commands, through which current and pertinent observations by these units are made quickly available to Ground Force units. The 10th Photo Group broadcasts at 20 minutes past the hour for a period not to exceed 20 minutes. It is the responsibility of each Corps and Division to monitor this broadcast.

## 2. 10th Photo Group, Reconnaissance:

a. The following units are either assigned or attached to the 10th Photo Group: \*

(1) 31st Photo Reconnaissance Squadron, equipped with P-38 type aircraft. This squadron is employed to obtain all types of daylight aerial photography required by Third US Army, XIX Tactical Air Command and Ninth Air Force.

(2) 12th and 15th Tac/R Squadrons, equipped with P-51 type aircraft. They are primarily employed in visual aerial reconnaissance for Third US Army and its subordinate units and for XIX Tactical Air Command and Ninth Air Force. They also perform artillery adjustment and are equipped to obtain a limited amount of aerial photography.

(3) Detachment "A", 20th Photo Intelligence Detachment, which consists of 22 officers and 9 enlisted men. This detachment performs the photo interpretation required by XIX Tactical Air Command and Ninth Air Force, including second-phase photo interpretation reports, target reports, bomb damage reports, and special P.I. reports as directed by Ninth Air Force or XIX Tactical Air Command. First-phase photo interpretation reports of photographs taken for Air units are made by

\* In addition, during the period covered by this report, the 155th Night Photo Squadron was included in the Group, and during part of the period there were two daylight P/R Squadrons.

the photo interpreters of the Tac/R or P/R Squadron that took the photographs. These first-phase reports are disseminated by teletype to all interested agencies.

(4) 1st and 15th Photo Tech Units. These units are equipped with facilities for volume reproduction of aerial photography for Third US Army, XIX Tactical Air Command and Ninth Air Force. These two units normally can produce approximately 15,000 prints daily and on occasion have turned out more than 44,000 prints in a single day. In 5½ months on the Continent they produced 1,753,198 prints. Print reproduction facilities are coordinated by Photo Control. Squadron laboratories make the first set of prints of photographs requested by Air units, and bulk reproduction is accomplished by one of the Photo Tech units. The squadron laboratory, for Army requests, usually makes one complete set of prints for "plotting". Priorities are established in accordance with Army needs and the negatives are sent to one of the Photo Tech units, which produces the desired number of prints. First-priority prints in limited quantities can usually be produced within 6 hours and delivered by courier to Corps within 11 hours after the P/R airplane has landed. Second-priority prints in limited quantity can usually be delivered to Army units within approximately 17 hours. Routine production of quantity prints usually requires 24 hours. The Photo Tech units also produce the prints used by Detachment "A", 20th P.I.D., in conjunction with the production of their second-phase P.I. Reports.

b. Within the 10th Photo Group Headquarters, two sections control the functioning of these different units. "Group Operations" schedules and controls all flying activities, and "Photo Control" coordinates all photographic production and reproduction, interpretation of photographs and the distribution of all photographic interpretation reports and prints.

(1) Shortly after arrival of the Group in FRANCE it was found necessary to organize a new section known as the Photo Control Section. Its primary duty is to receive all requests for photography and to pass the tasks which require flying to Group Operations, which in turn assigns them to the squadrons. When the photography is completed, the desired number of prints is made either by the squadron performing the mission or by the Photo Tech units with the aid of a multiprinter if large numbers of prints are required. The work is then brought back to the Sorting and Distribution Section, a sub-section of Photo Control, for distribution to the headquarters concerned through the Courier Section. No T/O provision for these sections existed, and they were extemporized when experience under field conditions proved them to be essential.

(2) Within the 31st Photo Reconnaissance Squadron, useful innovations have included the following:

(a) Plotting Section. - A "quick plot", actually an accurate pilot's trace, is rushed through by this section immediately after the mission is completed, so that the pictures may be put to use in a minimum of time. Pilots occasionally get off course and a long search results when the plotter finds the pilot's trace inaccurate. Often, however, this unscheduled coverage proves useful. One pilot, fifty miles from where he thought he was, followed the wrong railroad and snapped the marshalling yard at CHALONS-SUR-MARNE. The plotters scoured map after map and finally got the mission plotted. A day or two later CHALONS was wanted badly, and orders came through to get the target even under the very low clouds. The mission was cancelled when it was verified that the off-course sortie would meet requirements exactly.

(b) Screening and Coverage Department. - This department keeps a complete record of areas covered by the squadron's pilots, thus preventing unnecessary duplication of missions and avoiding considerable delay due to unflyable weather. The department meets many requests satisfactorily by supplying photographs of the required area taken previously for some other requesting agency, thus frequently fulfilling missions on days when not a plane can leave the ground.

(c) With regard to photographs for Third US Army, it has been found helpful to have a Third Army Photo Center officer constantly available at the squadron to assist in briefing on Army request missions and to give priorities on quantity production of prints after the mission has been flown. Thus the prints most urgently needed by the Army and its corps and divisions can be expedited in the light of the latest tactical developments.

(3) With the Tactical Reconnaissance Squadrons being called upon for an increasing amount of photography, experience has indicated a need for increased T/O provision for processing, interpreting and distributing their photographs.

c. Ground Liaison Officers (GLO), attached to Group Headquarters and each squadron, are responsible for briefing both the Tac/R and P/R pilots concerning the current ground situation and special items of information desired by Ground Force units. They also assist in the interrogation of pilots and transmit through established channels urgent or pertinent information of value to Ground units. Three officers and 10 enlisted men from Twelfth Army Group, equipped with radio

facilities, are attached to the 10th Photo Group to transmit information obtained by Tac/R and P/R units to Twelfth Army Group.

d. The Third Army Photo Center consists of 25 officers and 50 enlisted men and is located at the airfield occupied by the 10th Photo Group. It is charged with the responsibility of performing the interpretation of aerial photographs required by ground units including first, second and third-phase photo interpretation reports, collation of maps and other special reports as required by Army, and distribution of photographs furnished by the 10th Photo Group to Third US Army, its Corps and Divisions. Interpretation of photographs taken by Tac/R pilots to confirm visual observations is accomplished by the Photo Interpreter of the Tac/R squadron that took the photos. The first-phase photo interpretation report of these confirmation photographs is transmitted to Third US Army units in the same manner as visual observation reports. First-phase P.I. reports obtained from basic cover of priority areas are normally distributed by teletype six to eight hours after the P/R airplane has landed.

### 3. Handling of Tactical Reconnaissance.

#### a. Planning

(1) All tactical reconnaissance missions are planned by the Staff Reconnaissance Officer of this Command in accordance with the directives and policies of the Commanding General, XIX Tactical Air Command. The reconnaissance plan is presented to the Commanding General, XIX TAC, for his approval. It is the policy of the Commanding General to approve all requests for tactical and photo reconnaissance within the capabilities of the personnel and equipment available to the Command. At any time requests exceed the capacity of the reconnaissance units, the requirements of both air and ground are evaluated in terms of the current situation and precedence given to those which are of primary importance.

(2) The tactical area is subdivided into areas or routes of a size that can be effectively searched by a single Tac/R mission (2 Tac/R aircraft). The number of missions and the frequency with which each area or route is searched is determined by the current situation and is subject to constant change and revision.

(3) Routine Tac/R missions are pre-planned the night before at a conference between the Recce Staff officer and G-2 (Air), Third US Army. The Tac/R Plan, showing the areas and routes to be covered, the frequency of cover and the times missions will be flown, is presented each evening to the Commanding General, XIX Tactical Air Command, for approval.

It is then transmitted to the 10th Photo Group for execution. Information copies of the plan are sent to Third US Army and to each of its Corps.

(4) Special requests by Corps and Divisions for specific information within any Tac/R area or route are transmitted through Army G-2 (Air) channels to the Staff Recce Section, where, if approved, the request is immediately telephoned to the 10th Photo Group for execution by the next mission flown in that particular area.

b. Transmission of Results.

(1) Urgent information obtained during Tac/R missions is transmitted by the Tac/R pilot over VHF radio to the Corps or Division concerned. This VHF channel is also monitored by the Tactical Control Center. Targets of opportunity observed by Tac/R pilots may also be transmitted by VHF radio directly to airborne fighter-bomber formations and the Tactical Control Center where the information is telephoned to Combined Operations.

(2) Conventional channels for dissemination of Tac/R observations were explained in paragraphs A.l.f. and g.

(3) If telephone communications fail, the radio facilities controlled by the Tactical Air Liaison Officers can be employed to pass urgent information to Army units.

4. Handling of Aerial Photography.

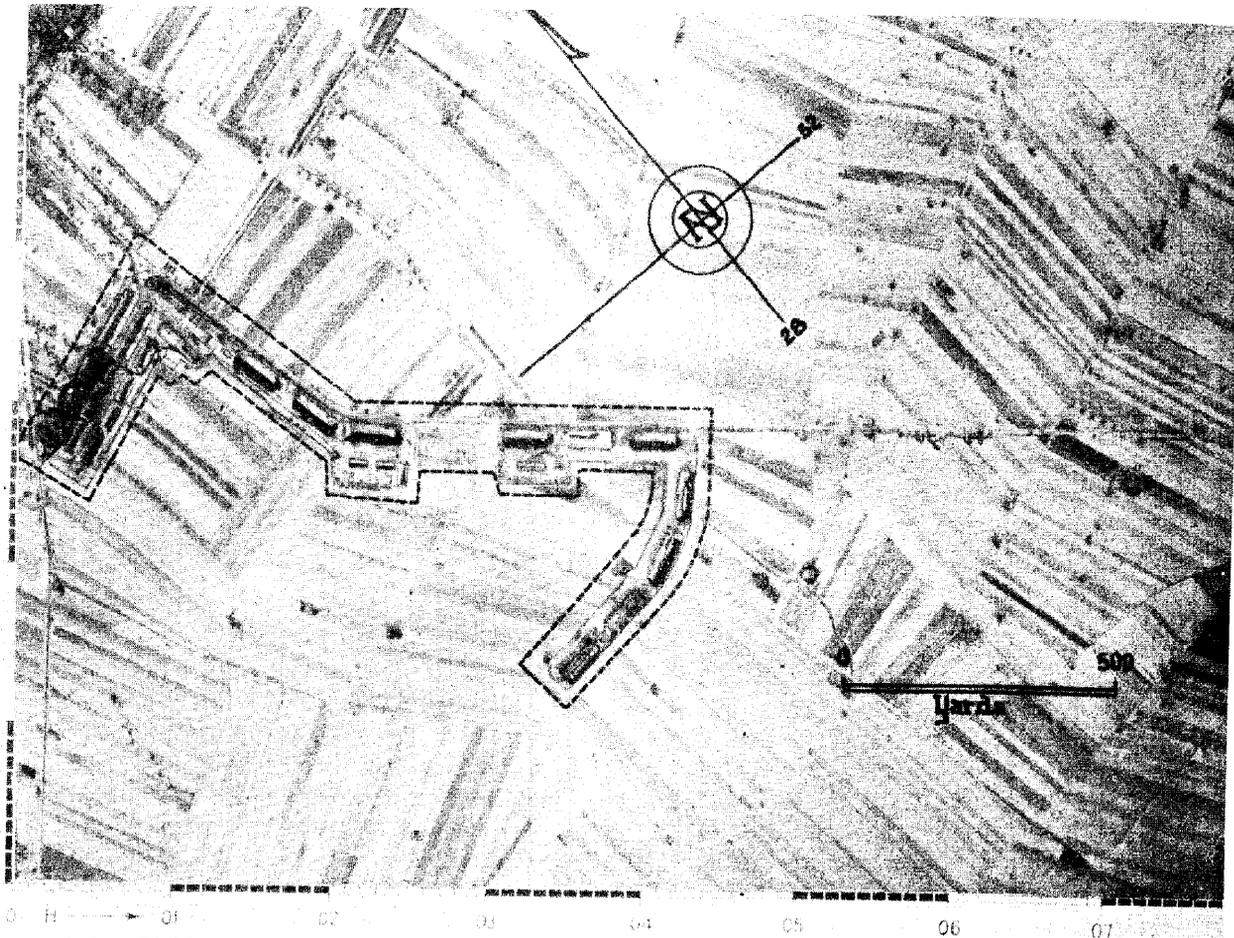
a. Planning.

(1) Ninth Air Force requirements for aerial photography are transmitted to XIX Tactical Air Command by the Director of Reconnaissance, Ninth Air Force. These requirements, along with the requirements of the Command and Third US Army, are coordinated and consolidated into the Photo Reconnaissance Plan by the Staff Reconnaissance Officer and presented to the Commanding General, XIX Tactical Air Command, for approval. It is then transmitted to the 10th Photo Group for execution.

b. Requests for Prints.

(1) Air Force. Ninth Air Force transmits its requirements to the XIX TAC Staff Recce Section in the form of print orders, which are then sent to the 10th Photo Group. Requests by XIX Tactical Air Command are sent directly to the 10th Photo Group after approval by the Staff Recce Section.

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CONFIDENTIAL

27 Feb 45

NINTH AF 2ND PHASE INTERPRETATION REPORT US10/T 532

- (a) LOCALITY: OBER INGELHEIM SUPPLY DEPOT (GSGS 4416/T 2 - M/275520)
- (b) SORTIE: US 31/3926 - 1005,06. SORTIE SCALE: 10,000
- (c) TOT: 2 Jan 45, 1415A F.L.: 24" ANNOTATED PRINT: 1006
- (d) COVER: The target is covered on prints of fair quality.
- (e) KEY TO ANNOTATIONS: Ground intelligence reports that the military installation within the outlined area is a supply depot which provides 20mm guns and other field equipment to units trained in the area. There are several large and medium warehouse type buildings, barracks buildings, and an administration building. The installation appears to be very active.

CONFIDENTIAL

20th P.I.D. at Hq. 10th P.G.

DISTRIBUTION "T"

TYPICAL "T" (TARGET) REPORT ISSUED TO XIX TAC GROUPS AND SQUADRONS

(2) Third US Army. Requests for prints are coordinated by the G-2 (Air) Section at Third US Army and are transmitted directly to the Third US Army Photo Center. The Third Army Photo Center passes such print requests to the 10th Photo Group. The finished prints are delivered to the Third Army Photo Center, which is responsible for distribution to all Army Units.

B. TECHNIQUE AND TACTICS.

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1. Types of Missions.

a. Tactical Reconnaissance. This type of reconnaissance is performed by F-6 (F-51) type aircraft operating in pairs. The No. 1 man is the section leader and is generally the more experienced of the pair. He is the navigator and the observer for the section. The No. 2 is the leader's "air cover", so to speak, and is responsible for protection against air attack as well as flak which the leader fails to see. The No. 2 flies approximately 200 yards to the immediate flank of the leader and down sun from him so that the tail of the No. 1 is always covered toward the sun, where generally any enemy attack may be expected to originate. These sections are instructed to avoid aerial combat wherever possible and never to strafe enemy installations. Tactical reconnaissance may be divided into the following types:

(1) Area Search. In order to furnish the Army with immediate information on movement and disposition of troops between its boundaries and along its front, the area covered includes all territory within the Army boundaries, from the front line to a depth of approximately 100 miles. Since this area is large it is subdivided into smaller areas of about 650 square miles. This size area may be covered completely in about one hour by one section. Before taking off on this type of mission the pilots are thoroughly briefed on the situation by Army Ground Liaison Officers and are generally given a few specific points to check in addition to a normal area coverage.

(2) Route Reconnaissance. This type of mission generally consists of visual reconnaissance of rail lines and main roads to a depth of 200 miles behind the Army front to determine enemy supply routes and to note movements of reserves.

(3) Artillery Adjustment. Tactical reconnaissance pilots, are called upon to adjust long-range artillery (155 MM guns to 8 inch howitzers) where light aircraft are unable to penetrate. These missions may be either planned with photographs of the targets or they may be run at any time the ground station requests them of any planes in the area.

(4) Merton Oblique Photographic Cover. All Merton gridded oblique photographs, used by artillery units to adjust fire, are taken by tactical reconnaissance pilots.

(5) Photographic Mission. In some cases, such as a 4,000-foot ceiling or a penetration of 150 miles, it is impractical to send an unarmed F-5 aircraft to take high-

priority photographs, so two F-6 aircraft are used for the mission. These cases are rare but important.

\* \* \* \*

Since each of the two Tactical Reconnaissance squadrons is allowed 24 tactical aircraft, it can run approximately 15 missions (30 sorties) daily. This makes 30 tactical reconnaissance missions for the Group each day. A typical allocation of effort is:

- Twenty Area Search Missions
- Four Route Reconnaissance Missions
- Two Merton Gridded Oblique Missions
- Four Artillery Adjustment Missions

This allocation will, of course, vary with the tactical situation.

b. Photographic Reconnaissance (Daylight). This type of reconnaissance is performed by a single, unarmed F-5 type aircraft (P-38). The pilot depends on altitude, speed, and evasive action alone for protection. The 10th Photo Group now has one Photographic Squadron, with an average of 18 planes assigned, for meeting the demands of XIX Tactical Air Command and Third Army, and those of the Ninth Air Force and Twelfth Army Group.

(1) Strips and Mosaics. This includes the photographing of the entire battle area and areas of proposed operations (known as basic cover), lines of communications and zones of defenses, and the preparation of uncontrolled mosaics.

(2) Pinpoints. On missions of this type the pilot photographs a specific target for detailed stereo cover, such as airfields, bridges, marshalling yards, gun positions, CP's, road junctions, rail cuts, etc.

(3) Front-line Coverage. This is the detailed coverage of the immediate front on a scale of 1:10,000 or larger, for determining enemy defenses, gun positions, priority targets, etc. It is performed daily if weather permits, in order to ascertain latest changes.

(4) Bomb Damage Assessment. Targets are photographed immediately after being bombed (normally about 30 minutes after bomber TOT) to determine the extent of damage. Stereo coverage is secured for detailed P.I. reports, which are submitted to the bombing agency. In case a target is hit early in the day, this information is provided in time for a return bombing mission the same day if the results of the first mission were not satisfactory.

c. Night Photographic Reconnaissance. This type of reconnaissance is performed by a single F-3 (A-20) type aircraft with a crew consisting of a pilot, navigator, and aerial gunner. Two types of camera installations are employed: The D-2 Flash Unit and M-46 Flash Bomb System. Photographs are limited to pin-points and strips, primarily for the purpose of noting enemy movement.

\* \* \* \*

Missions executed by the 10th Photo Group from 6 June 1944 to 31 December 1944, inclusive, are broken down as follows:

(a) Front-line Coverage	208
(b) Pin-points	104
(c) Strips and Mosaics	1,147
(d) BDA	626
(e) Artillery Registration	124
(f) Area Search	1,427
(g) Other Visuals	425
	TOTAL
	4,061

Number of prints produced: 3,010,753

## 2. Altitude of Operations.

a. Photo Reconnaissance (Daylight). -- To meet the Army's need for photographs of 1 to 10,000 scale with a camera of 24-inch lens, the Group's photo pilots normally fly their P-38's (F-5's) at 20,000 feet, weather permitting. They can, however, fly as high as 35,000 feet with a 40-inch lens. On high-priority missions, when weather conditions have permitted no alternative, coverage missions involving flying of long straight-line courses have been flown at 6,000 feet with a 6-inch lens, producing a 1 to 12,000 photo, and two new 12-inch installations have recently been designed to get pictures when cloud base is down around 5,000 feet (see page 42). The intense light flak fire encountered over German positions and important targets makes daylight photographic reconnaissance below 6,000 feet extremely hazardous, however. On-the-deck "dicing" operations are employed to obtain extremely urgent photographs when weather will not permit vertical photography, but have been found very costly because of flak.

b. Tactical Reconnaissance. -- For visual reconnaissance the usual altitude is between 3,500 and 6,000 feet, although photographic Tac/R missions sometimes run higher. From more than 6,000 feet the ground cannot be discerned in sufficient detail. It is frequently necessary to make a pass or two below 3,500 feet to permit a specific observation, such as noting whether a train is carrying motor vehicles or tanks. As with fighter-bombers, however, sustained operations under 3,500 feet are impracticable because of the intense

light flak encountered over troop concentrations and other important tactical targets in this Theater. Merton obliques for use of the artillery (and other Army units in planning an attack) are taken at altitudes from 2,500 to 4,000 feet, preferably above 3,500 feet. The angle is 12 to 17 degrees downward from the horizontal.

c. Night Photographic Reconnaissance.

(1) When weather conditions permit, photographs are usually made from an altitude of 6,000 to 10,000 feet by release of a series of 10 flash bombs which illuminate the target from approximately 2,300 feet; the camera shutter is operated by a photoelectric cell activated by the flash.

(2) The Edgerton electric flash method, employing a series of flashes of extreme brilliance but very short duration (about .8 milliseconds) emitted by a high-voltage discharge lamp mounted in the plane, is used for photographs from lower altitudes. The normal photographing altitude is about 2,000 feet. However, the light is adequate to make acceptable exposures up to 3,000 feet above the ground if haze conditions are not unfavorable.

3. Cameras.

a. Photographic Reconnaissance (Daylight).

(1) The standard installation consists of two 24-inch cameras (either K-17 or K-22) with 7-degree side-lap. Variations consist chiefly of substitution of cameras with longer focal length for extreme high-altitude photography, 12-inch or shorter focal length, cameras when ceilings are too low for split 24's, or the special installation used for dicing.

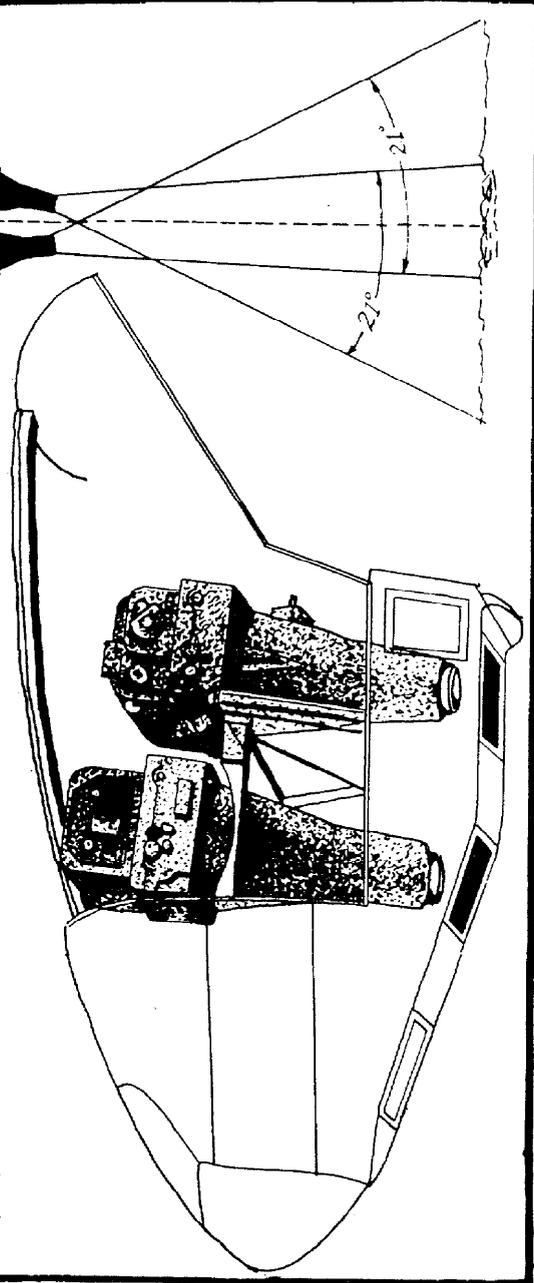
(2) For the pre-invasion dicing missions flown over the beaches of Western Europe, the F-5's carried a 12-inch focal length nose camera tilted downward at an angle of 10 degrees, and two 6-inch focal length oblique cameras, one on each side, aimed slightly forward from right angles to the line of flight, giving an uninterrupted coverage of more than 180 degrees. This is still the standard dicing installation.

b. Tactical Reconnaissance.

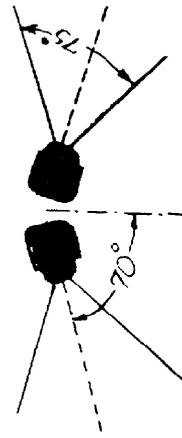
(1) Vertical Photography: The K-22 camera, with the 12-inch cone, offers excellent-quality detail photographs at an operational altitude of 6,000 feet for vertical coverage. The K-17 camera, with a 6-inch cone, gives similar results when weather conditions require a lower altitude, usually 3,500 feet. The K-17, 6-inch cone, is being replaced

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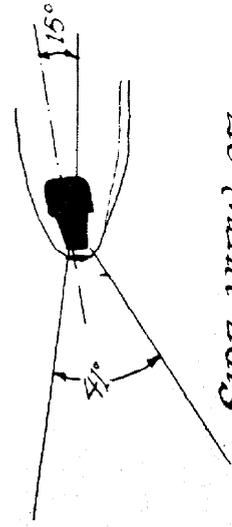
*K 22, 24" split vertical  
mounted in an F5b~*



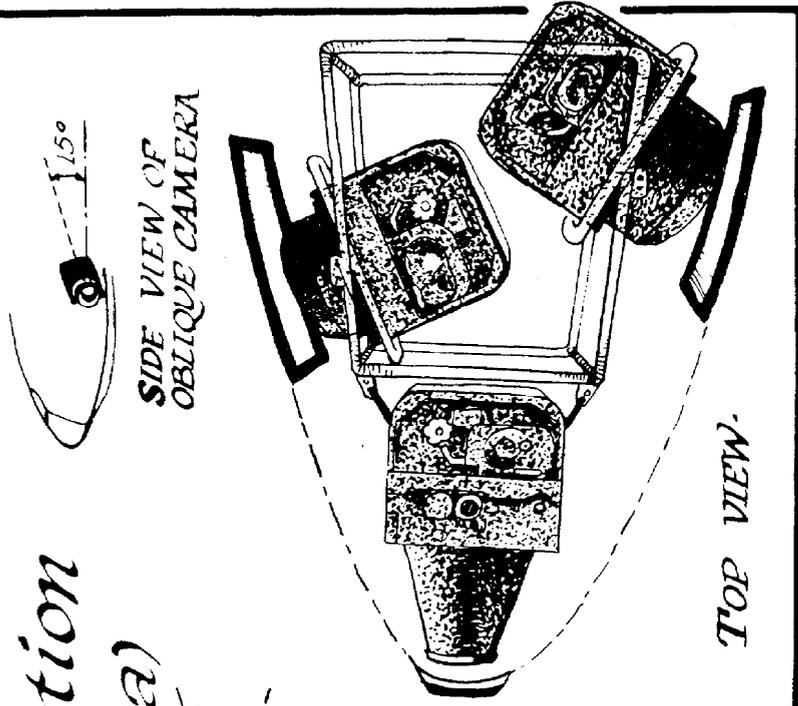
*Dicing Installation  
(12" nose camera)*



*REAR VIEW OF THE 2  
6" OBLIQUE CAMERAS*



*SIDE VIEW OF  
NOSE CAMERA.*



*SIDE VIEW OF  
OBLIQUE CAMERA*

*TOP VIEW.*

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with the K-22, 6-inch cone, to take advantage of the 2-second rewind cycle for overlap coverage at low altitude and to standardize the types of cameras installed.

(2) Oblique Photographs:

(a) Ungridded Obliques. -- The K-24 camera, 7-inch and 14-inch cones, is used for low-altitude oblique coverage of railroad tunnels, cuts and bridges. Photos are used for briefing of fighter-bomber pilots in planning attacks. For these purposes the K-22, with 12-inch cone, is also being used, to an increasing extent.

(b) Gridded Obliques. -- The K-22 camera, 12-inch cone, is used primarily to obtain Merton gridded oblique photographs for use of artillery and for planning an attack by any or all echelons.

c. Night Photographic Reconnaissance.

(1) D-2 Flash Unit. -- Using this system, photographs are secured between 2,000 and 3,000 feet with a K-19 (or K-29) 12-inch camera and a maximum of 180 exposures. The unit consists of a condenser charged by the airplane's generation. During the photo run, the unit discharges every three seconds, illuminating the target with a light intensity of 200,000,000 candle-power. The camera is synchronized with the flashes. Overlap and photos of excellent quality are secured by this method, which can be employed at low altitude when ceilings are limited by weather.

(2) M-46 Flash Bomb System. -- In this system, the aircraft carries ten M-46 Flash Bombs and split 12-inch cameras. The bomb, after being released, ignites at a given time by a set fuse, and the light (800,000,000 candle-power) trips the camera through a photoelectric cell. These photos are taken at an approximate altitude of 8,000 feet with a maximum of ten exposures per plane.

4. Range.

a. Photo Reconnaissance (Daylight). On the majority of missions, the F-5's operate 100 to 150 miles from base, but on airfield coverage the average is 250 to 275 miles. The F-5 has sufficient range to fly easily double these distances and return, but such range is rarely required in the present type of tactical operations. These aircraft operate singly and unarmed, and it is a matter of general policy not to send them out more than 275 miles without escort.

b. Tactical Reconnaissance. Our F-6's often operate as much as 275 miles from base. Drop tanks or extra fuselage

tanks are not used, since they impair the maneuverability so important for good observation.

c. Night Photographic Reconnaissance. The A-20J and K aircraft (F-3's) used for this type of work have sufficient fuel capacity to operate at almost any point along the Western Front and some missions involve about 400 miles of flying. The limiting factor has been the range of the navigational aids required. Several systems have been experimented with: Gee Mark II, Loran, MEW, SCR 584, Shoran, Gee-H and AN/APN-9. The Gee system has proven most successful, and excellent results are now being obtained.

## 5. Armament and Tactics.

a. Daylight photo reconnaissance aircraft (F-5's) operate singly and carry no armament. Attempted air interception is very frequent, but pilots have had little trouble in evading by diving or securing cloud cover. In a few instances of taking strips it has been found advisable to provide "top cover" in order that the pilot may devote his entire attention to the camera run.

b. Tactical reconnaissance aircraft (F-6's) carry the usual P-51 fighter armament consisting of six calibre .50 machine guns. Since their mission is to bring back information and pictures, it is their duty to avoid combat if possible. In 1944, however, the 10th Photo Group's F-6's claimed 30 enemy aircraft destroyed, 9 probably destroyed and 9 damaged. Tac/R aircraft operate in sections of two, flying 150 to 200 yards apart, line abreast. No. 2 watches the sky at all times for flak and enemy aircraft, enabling No. 1 to concentrate on observation of the ground.

c. Night photo reconnaissance aircraft (F-3's) were at first armed with twin calibre .50 machine guns in the top turret, but these were later removed and dependence placed instead upon an automatic tail warning device which rings a bell in the pilot's compartment when another aircraft approaches from the rear. The only defense is violent evasive action, with steep diving turns. Areas are cleared as to enemy aircraft by Microwave Early Warning before entering. Night fighter escort is used when available. It is the gunner's duty to call out flak. Close liaison is maintained with friendly anti-aircraft units and all flights clear with them. In taking photos at low altitudes the target is approached at 6,000 feet and immediately after the photo run altitude is again secured. If the target has been missed on the first run it is not attempted again until the other targets have been covered, since the enemy will have been alerted.

6. Communications.

a. The following communication SOP for recon aircraft of XIX TAC became effective on 26 February 1945:

Tac/R Aircraft

1. "A" Channel (747) will be used for the following:
  - (a) Local control and homings
  - (b) Reporting airborne and landings to RIPSAN (Tactical Control Center)
  - (c) Alternate artillery channel
2. "B" Channel (711) will normally be used for artillery adjustment missions with Corps Artillery
3. "C" Channel (831) will be used as follows:
  - (a) For reporting potential fighter-bomber targets to RIPSAN
  - (b) For reporting observations to VIII, XII, and XX Corps and for normal contact with these corps.
  - (c) Special photo calibration mission with Battle Area Control Unit (SCR 584).
  - (d) This channel is to be used for normal "area" missions to the west of the Rhine River.
4. "D" Channel is to be used as follows:
  - (a) For contact with fighter-bombers
    - (1) West of Rhine -- Report target to Ripsan or Corps over "C" channel. Ripsan or Corps will instruct fighters and Tac/R to switch to "D" channel.
    - (2) East of Rhine River -- Report targets direct to fighter-bombers in area. Each fighter-bomber flight operating in the area to the east of the Rhine, will have one aircraft monitoring this channel. Tac/R aircraft will call, using fighter group call sign, direct to group operating in areas as shown by daily field order.
  - (b) For obtaining "fixes" from Ripsan.
5. General instructions.
  - (a) Fighter-bomber targets located more than 30 miles from the front lines will be called to Ripsan only and not to the Corps. Fighter-bomber targets within 30 miles of the front lines will be called to both Ripsan and the Corps concerned.

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- (b) Impromptu artillery missions - If a pilot locates a potential Corps artillery target, he may contact the Corps Tactical Air Liaison Officer over "C" channel. Corps TALO will contact the Arty FDC and determine if a shoot is to be conducted. If the artillery wishes to fire on the target, the Corps TALO will instruct the pilot to switch to "B" channel and contact the Corps Arty ground station and conduct the shoot.
- (c) Normal control, as to warnings of enemy aircraft and as to any instructions, by Ripsaw, will be given over "C" channel to Tac/R aircraft operating west of the Rhine River and over "D" channel to aircraft operating east of the Rhine River.
- (d) In emergency, Ripsaw may be contacted over "A", "C", or "D" channels.

P/R Aircraft

P/R Aircraft will normally be controlled by Ripsaw and their local ground station over "A" channel. "Fixes" may be obtained from Ripsaw over "D" channel. Fighter-bombers may be contacted over "B", "C", or "D" channel in accordance with instructions received from ground control. Ripsaw may be contacted over "A", "B", "C", or "D" channel.

b. Communications are of the utmost importance to obtain that cooperation between tactical reconnaissance aircraft, fighter-bomber aircraft, and the ground controller which will result in a perfect team, capable of completely paralyzing the communication centers and supply routes of the enemy. At present, the Operations Order issued daily by the XIX Tactical Air Command to its fighter-bomber groups states; "All units operating East of the Rhine will maintain a listening watch on channel "B" (Baker) for any hot targets passed in clear by Recce aircraft. Call signs of Recce: Rabbi, Dumpling." By this method the fighter-bombers receive all of the targets found by reconnaissance planes and are able to hit them before the objective has time to move. When possible the reconnaissance section leads the fighter-bombers directly to the target.

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FROM: U.S. 10TH PHOTO GROUP, RCN 141000A  
TO :  
(1) HQ. NINTH AIR FORCE (ADV) (ATTN: DOR)  
(2) HQ, XIX TAC (ADV)  
(3) IX TAC  
(4) HQ NINTH BOMB DIV (M)  
(5) AIR STAFF SHAEF (FORWARD ) RECCE)  
(6) AM WHITEHALL  
(7) HQ, 1ST TAF  
(8) RAF STATION MEDMENHAM  
(9) HQ XXXXXX XXIX TAC  
(10) HQ XII TAC  
(11) 67TH TAC RCN GROUP  
(12) HQ 1ST FRENCH AIR CORPS

S E C R E T SEND IN CLEAR BY LANDLINE ONLY, AUTH: LT. COL. HIBBERT  
BT

FIRST PHASE PHOTO INTERRETATION REPORT NO. 1029

A. US 12/4200 1615A 13 MAR 45

B. BDA TASK 1579 KIRN M/Y 4416/T-2/L-802318 PRINTS 5022-24; 5029-30  
RR BRIDGE UP AND UNDAMAGED. STATION BUILDING MODERATEDY DAMAGED. ALL  
LINES OPEN IN M/Y. APPROXIMATELY FOUR HUNDRED THIRTY (430) WAGONS  
PRESENTB

BDA TASK 1577, STORAGE DEPOT, NAHBOLLENGACH, 4416/U-2/L-726236  
PRINTS 5038-39  
TWO (2) WAREHOUSE SHEDS DESTROYED. ONE WAREHOUSE SHED 3/4 DESTROYED.  
ONE WAREHOUSE SHED 1/4 DESTROYED.

BDA TASK 1578, SIMMERN RR BRIDGE, 4416/T-2/L-839530 PRINTS 51/////  
5010-12 BRIDGE UP. NO NEW DAMAGE NOTED. THROUGH RAIL TRAFFIC REMAINS  
POSSIBLE. RAIL LINE AT L-841531 HAS BEEN CUT. THIS BLOCKS THROUGH  
RAIL TRAFFIC BETWEEN BOPPA TO THE N AND SIMMERN TO THE NE.

BDA TASK 1657, LORCH M/Y 4416/T-2/M-055602. TARGET CLAIMED ON  
RECFLAXH MISSED.

END

TYPICAL FIRST PHASE PHOTO INTERPRETATION REPORT

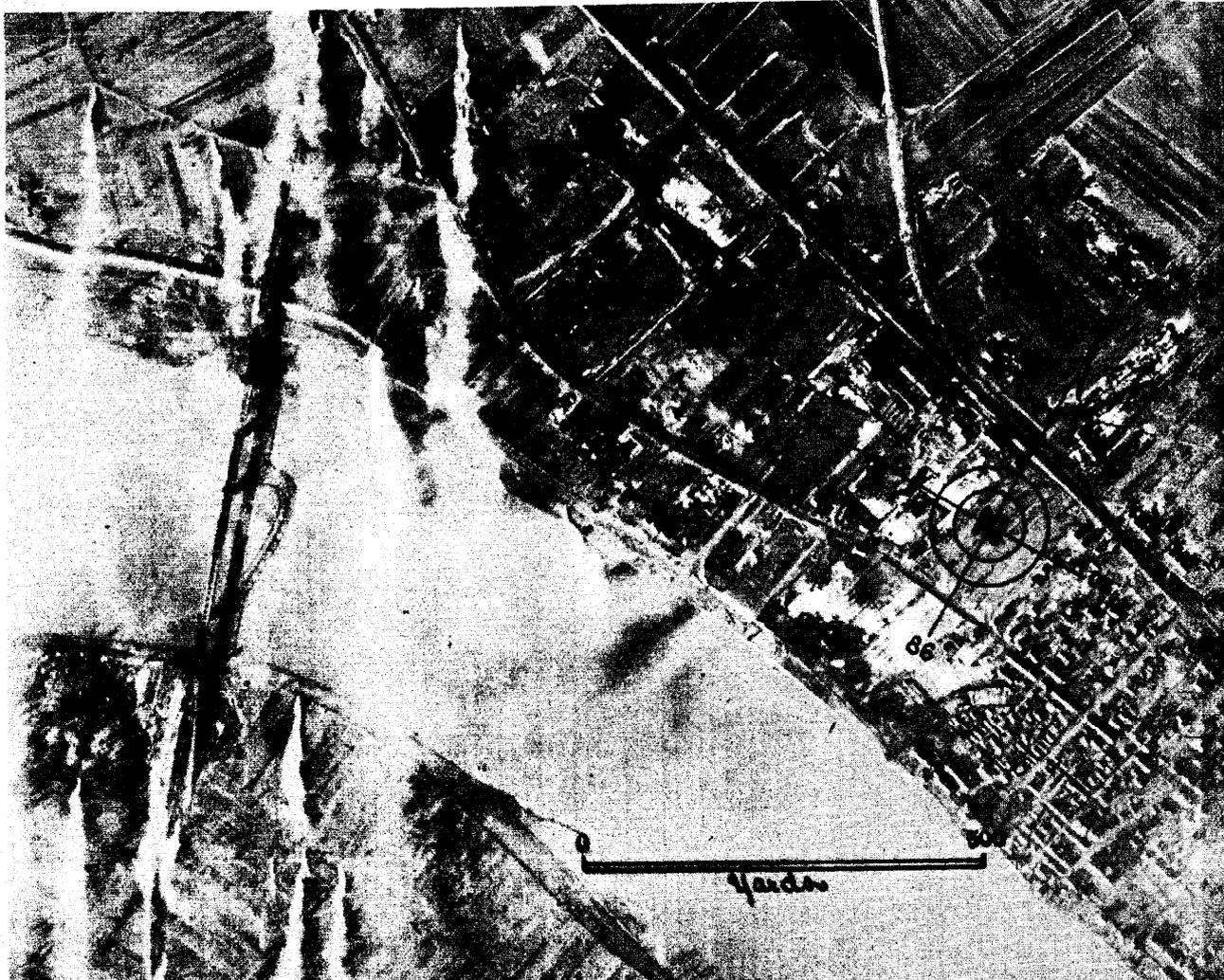
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12 Feb 45

NINTH AF 2ND PHASE INTERPRETATION REPORT US10/S 70

- (a) LOCALITY: ENGERS (KRONPRINZ WILHELM) RAIL BRIDGE (GSGS 4416/S2-F/852023)
- (b) SORTIE: US 30/5421 - 2084, 85 SORTIE SCALE: 7,000
- (c) TOT: 5 Feb 45, 1430A F.L.: 40" ANNOTATED PRINT: 085
- (d) COVER: The target is covered on prints of good quality.
- (e) KEY TO ANNOTATIONS:

A double track, four span, iron and steel lattice girder rail bridge 1237 feet long and 36 feet wide. The N approach is formed by a 4 span masonry arch viaduct 430 feet long, making a total length of 1667. The S approach is on a high earthen embankment.

- (F) ACTIVITY: The bridge is undamaged and serviceable. A number of smoke pots in operation, surrounding the target, are visible.

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20th P.I.D. at Hq. 10th P.G.

DISTRIBUTION "Special"

TYPICAL SECOND PHASE PHOTO INTERPRETATION REPORT

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-74-

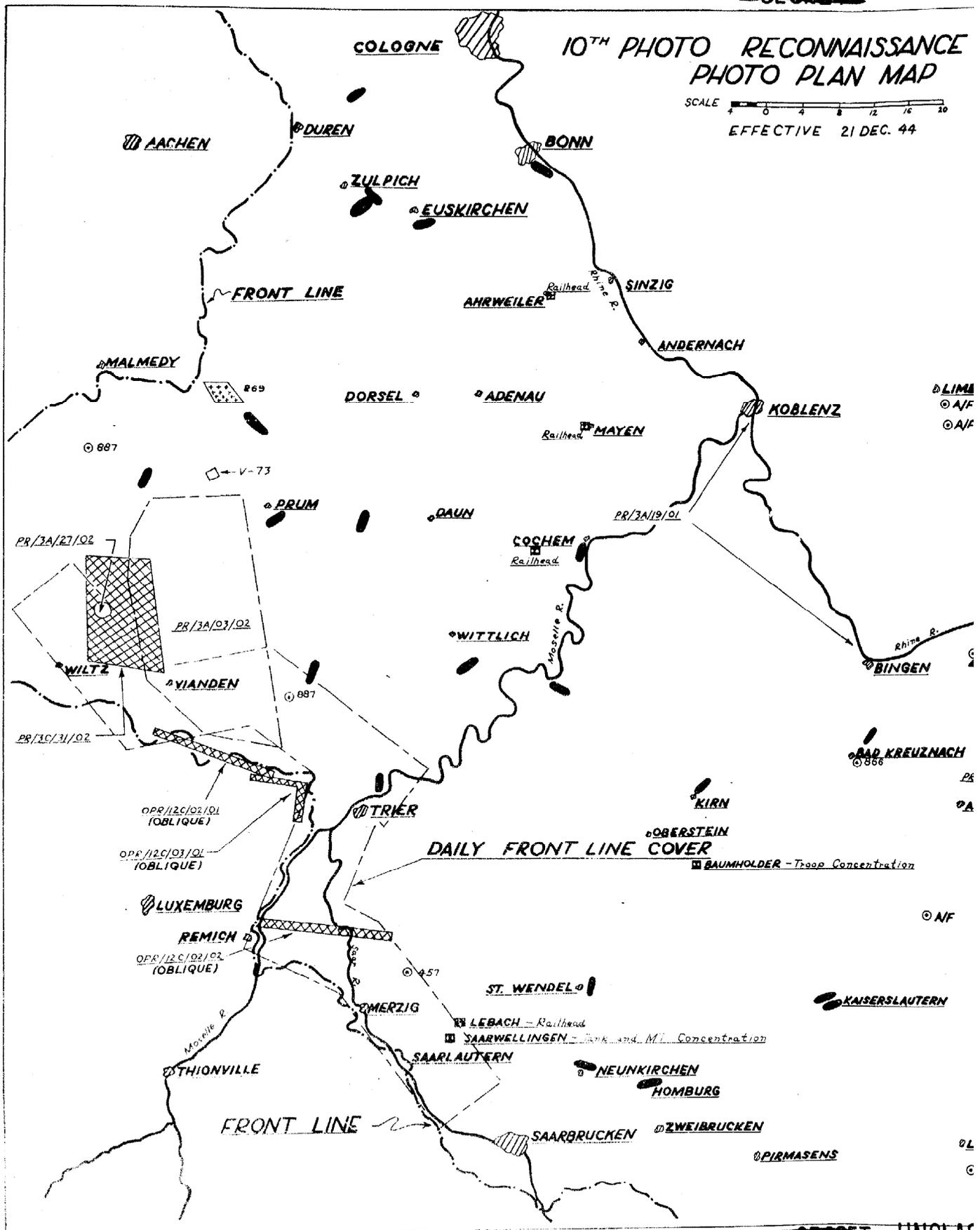
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# 10<sup>TH</sup> PHOTO RECONNAISSANCE PHOTO PLAN MAP

SCALE  0 4 8 12 16 20  
EFFECTIVE 21 DEC. 44



DL  
AF  
AF

DL  
DA

AF

DL  
C

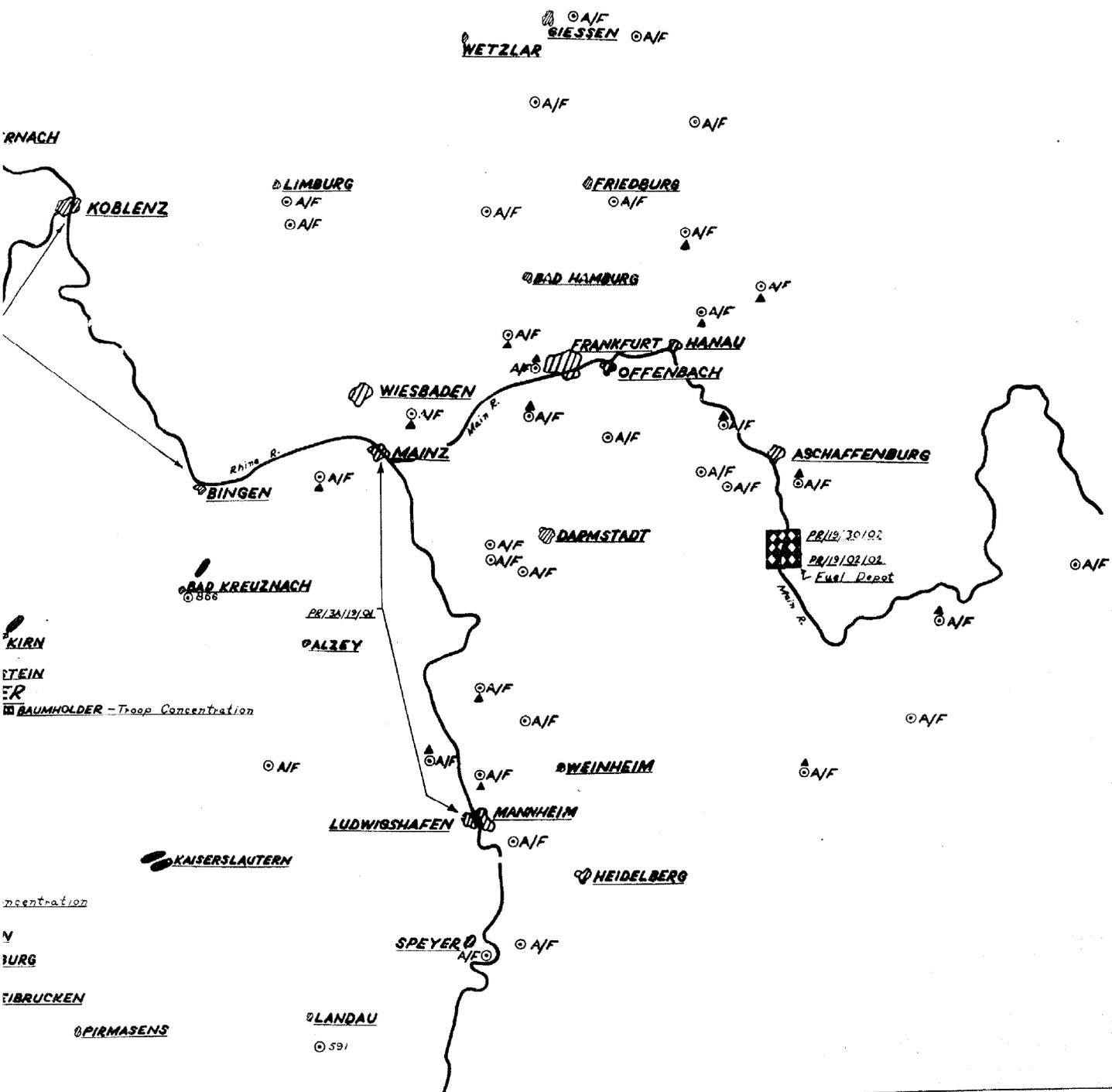
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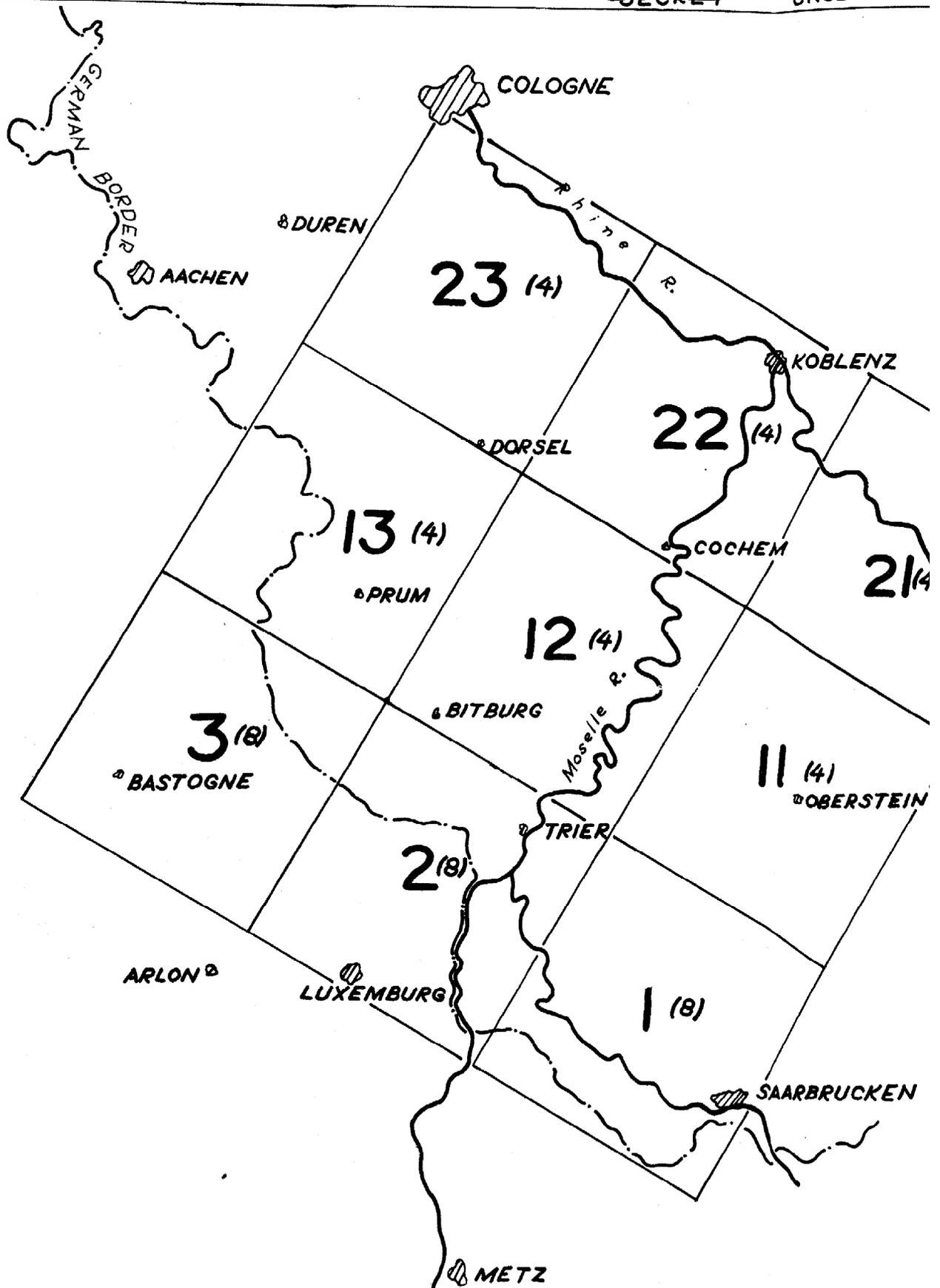
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# 3 RECONNAISSANCE GROUP PHOTO PLAN MAP

SCALE 0 4 8 12 16 20  
EFFECTIVE 21 DEC. 44

LEGEND	
	XIX TAC REQUIREMENTS
	THIRD ARMY REQUIREMENTS
	CORPS REQUIREMENTS
	NINTH AIR FORCE REQUIREMENTS
	NIGHT PHOTO REQUIREMENTS
	AIRFIELD COVER:
	A/F NINTH AIR FORCE
	XIX TAC
	451 PIN-POINT
	FRONT LINE





VE

GIESSEN

LIMBURG

FRANKFURT

KOBLENZ

22 (4)

COCHEM

21 (4) BINGEN

BAD KREUZNACH

11 (4) OBERSTEIN

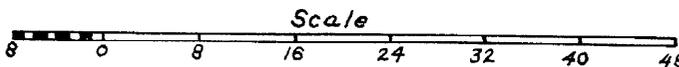
KAISERSLAUTERN

1 (8)

SAARBRUCKEN

# TAC/R PLAN

EFFECTIVE 21 DEC. 44



NOTE: FIGURES IN PARENTHESES INDICATE NUMBER OF TAC/R SORTIES PER DAY OVER EACH AREA.

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10TH. PHOTO. GROUP,

RECORD F

MONTH	MISSIONS			SORTIES			HOURS			TYPE	
	1944	VIS/R	P/R	NP/R	VIS/R	P/R	NP/R	VIS/R	P/R	NP/R	VISUAL
FEBRUARY	0	2	0	0	2	0	0	2:55	0	0	0
MARCH	0	38	0	0	38	0	0	62:30	0	0	0
APRIL	0	170	0	0	170	0	0	322:45	0	0	0
MAY	0	225	0	0	255	0	0	447:20	0	0	0
JUNE	19	378	34	38	425	34	62:50	815:55	52:45	19	19
JULY	212	309	65	414	389	65	927:00	731:00	190:00	212	212
AUGUST	480	271	12	960	306	12	1991:00	667:30	34:00	468	468
SEPTEMBER	411	303	11	822	303	11	1412:00	617:30	23:30	386	386
OCTOBER	249	153	29	494	153	29	780:00	263:00	55:00	209	209
NOVEMBER	209	137	57	418	140	57	694:00	232:00	104:00	187	187
DECEMBER	392	227	99	784	232	99	1166:00	305:00	172:00	367	367
TOTAL	1972	2213	307	3930	2413	307	7032:00	4467:00	631:15	1848	1848
GRAND TOTAL	4,492			6,650			12,130:15				

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PHOTO. GROUP, RECONNAISSANCE

RECORD FOR '44

HOURS			TYPE MISSION			SUCCESSFUL			CLAIMS			LOSSES		
S/R	P/R	NP/R	VISUAL	PHOTO	ARTY/R	VISUAL	PHOTO	ARTY/R	DEST.	PROB.	DAM.	F-3	F-5	F-6
0	2:55	0	0	2	0	0	1	0	0	0	0	0	0	0
0	62:30	0	0	38	0	0	27	0	0	0	0	0	0	0
0	322:45	0	0	170	0	0	135	0	0	0	0	0	0	0
0	447:20	0	0	225	0	0	201	0	0	0	0	0	4	0
62:50	815:55	52:45	19	412	0	11	258	0	8	2	2	1	2	0
27:00	731:00	190:00	212	374	0	152	216	0	3	0	0	1	0	3
91:00	667:30	34:00	468	283	12	417	211	6	8	1	2	0	2	1
12:00	617:30	23:30	386	314	25	330	258	13	1	0	0	1	0	2
10:00	263:00	55:00	209	182	40	186	112	19	1	0	0	1	1	0
14:00	232:00	104:00	187	194	22	156	87	9	1	6	2	1	0	1
16:00	305:00	172:00	367	326	25	321	203	12	8	0	3	2	2	4
52:00	4467:00	631:15	1848	2520	124	1573	1709	59	30	9	9	7	11	11
12,130:15						3,562						29		

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