



The Campaign

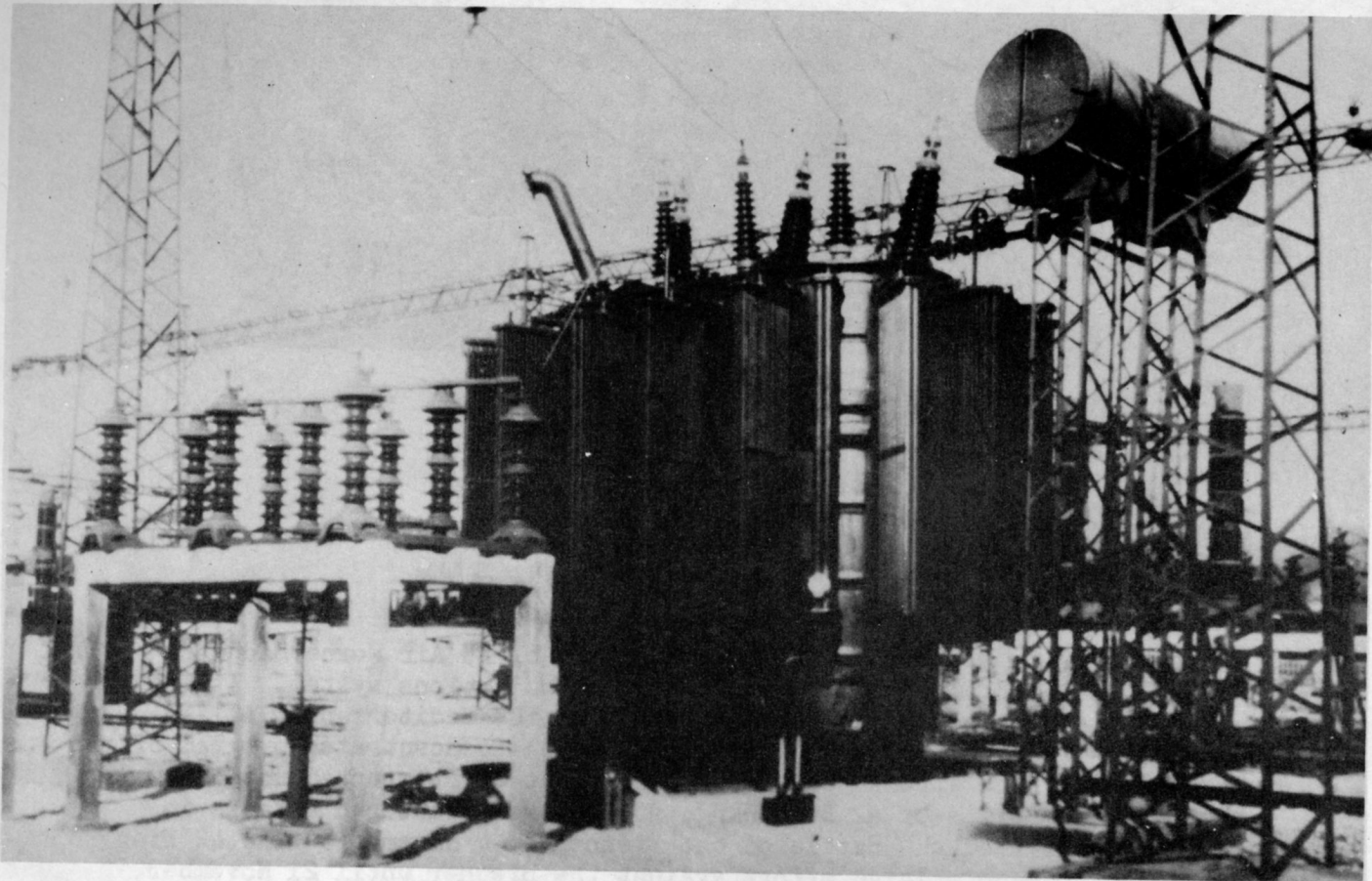
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Prior to October, 1944, heavy bombers of 15 Air Force had made several isolated attacks on the Brenner communications system. It was not until 4 November, 1944, that aircraft of the Mediterranean Allied Tactical Air Force struck their first blow in a concentrated program of Brenner rail line attacks that was to continue uninterrupted until 25 April, 1945. B-26s of 42 Bomb Wing, after a few scattered attacks in October, initiated the Battle of the Brenner on 4 November. The 42 Wing continued to send a large effort against the Brenner until 21 November, 1944.

Fighter bombers of XXII Tactical Air Command joined the battle in late November, 1944, and made a large contribution to the interdiction program. During the winter but particularly in April, 1945, after the start of the 15 Army Group spring offensive, 15 Air Force heavy bombers returned to the Brenner on several successful missions. From 21 November, 1944, to 25 April, 1945, the weight of the campaign was carried by B-25s of 57 Bomb Wing. Except when close support of the army took precedence,

first priority attacks of each day's effort were directed against the Brenner.

Though the full weight of 57 Wing was not thrown into the Brenner battle until later, B-25s made their first appearance over the Brenner on 6 November, 1944, in operation "Bingo". This operation was designed to deny the use of electric traction to the enemy from Verona to Bolzano. Employing electricity, the Brenner line was reported to have a daily capacity each way of 24,000 tons, more than five times the daily requirement of the German armies in Italy. If the enemy were forced to rely on steam traction, it was estimated that this daily capacity would be reduced to 6,740 tons, which was believed to be slightly less than twice the daily requirement. This would make a considerable contribution to the interdiction program, for if the Brenner could be blocked 50 per cent of the time the enemy would be unable to maintain his supply level.



In operation "Bingo" on 6 November, 1944, B-25s of 57 Bomb wing successfully destroyed three transformer stations between San Ambrogio and Trento, thus obliging the Germans to substitute steam for electricity, vastly reducing the daily capacity of the Brenner line. Above is a typical Adige valley transformer installation.

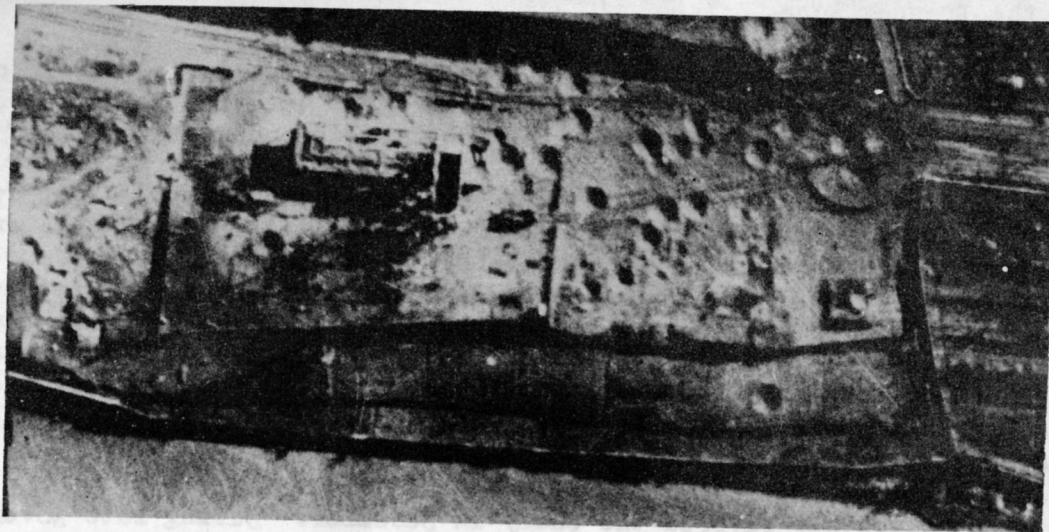
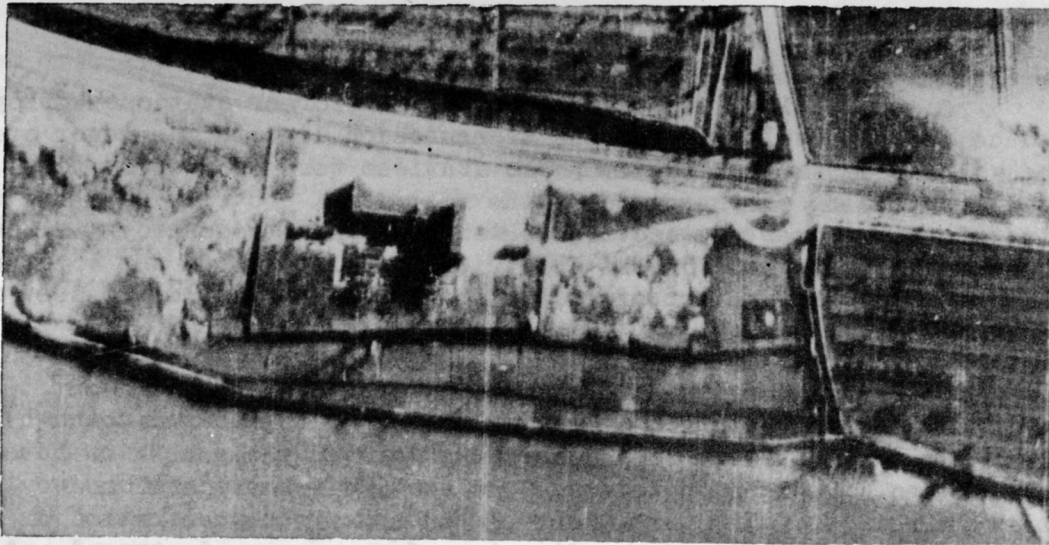
On the entire line there were 14 transformer stations employed to reduce the high voltage from the transmission line to the lower operating voltage of the railroad. These stations were located 10 to 20 miles apart, depending on the grade of the rail line. To eliminate the use of electric power over any section it was necessary to destroy at least three consecutive stations, for the electrical feeding system was so organized that even the destruction of two adjacent stations would not deny its use completely.

On 6 November, 36 aircraft of 310 Bomb Group carried out two attacks on the transformer station at San Ambrogio. Five-hundred-pound bombs destroyed two transformers and severely damaged the generator house, as well as two high-tension towers. The station was rendered unserviceable. Thirty aircraft of 340 Bomb Group placed a heavy concentration on the Trento station. Three of the five transformers were destroyed and the remaining two were damaged. The control house and cabling were damaged. Ala was attacked by two formations of 321 Bomb Group. The control house was heavily damaged and the roof destroyed. The transformer yard received at least six direct hits completely destroying all the transformers. Fighter bombers also carried out attacks of 16 aircraft each on the stations at Trento, Ala, San Ambrogio and Verona.

The success of the operation as indicated by photo reconnaissance was confirmed by several reports from ground sources, one of which, dated 25 November, stated that "due to damage to four electric sub-stations, only steam locomotives operate between Verona and Trento". So heavy had been the damage to these stations that they were never repaired nor replaced by mobile units. Because of our interdiction program north of Trento and the enemy's reliance on the non-electrified diversions in this area, the use of electric power was denied to the enemy as far north as Bolzano, which became the southern terminus for electric traction on the Brenner line.

In addition to the "Bingo" operation 57 Wing carried out 10 other attacks on the lower Brenner in November. On 6 November 319 Group damaged and blocked the bridges at Calliano and Rovereto and cratered the fill at Rovereto, adding further gaps to the line, already cut in several places from 42 Wing attacks early in the month. On 7 November 340 Group destroyed Ala rail bridge and 310 Group cratered Ossenigo fill. On 8 November Ossenigo fill was again struck and before 16 November three attacks were carried out on San Michele bridge and another at Calliano. This completed 57 Wing effort on the Brenner in November. Prior to 22 November the weight of the attacks on the Brenner was carried by 42 Wing and in the days following, weather and army support commitments prevented further operations. The line was probably blocked to through traffic for the first 22 days of the month.

The weather favored the enemy in December. During late November and the greater part of December, much of the effectiveness of earlier attacks was lost as weather prevented bombing and allowed repairs. The Brenner pass line was confirmed as cut only 12 days in December, but due to lack of regular photo cover it is impossible to say exactly how many



The above photo shows a "Before, during and after" series of the attack on the transformer station at Ala during operation "Bingo", 6 November, 1944. So complete was the destruction that the enemy abandoned all attempts at repair and the operation was successfully completed in one day.

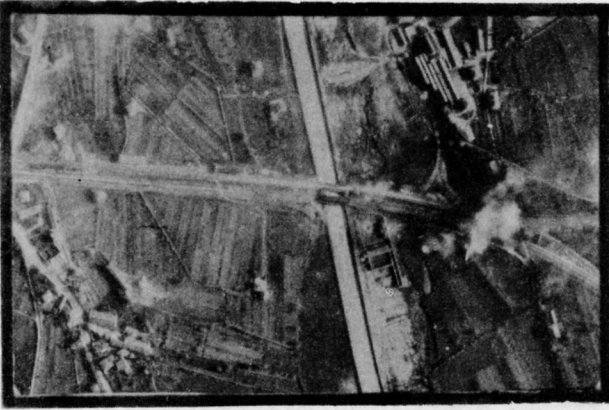
days the line was blocked. It is safe to assume that traffic was interrupted for a considerably greater portion of the month, probably 19 days, than was actually confirmed by photographs, although route and target weather and other commitments restricted effective Brenner attacks to only five days for the entire month.

The line was open for through traffic on 1 December. On 2 December the bridges at Ala, Rovereto and Calliano on the lower, and at San Michele on the middle Brenner, were attacked. Ground haze and smoke from generators along the river bank and roads partially obscured the targets at San Michele, Calliano and Rovereto and heavy, moderate to intense flak opposed all of the missions. While they definitely closed the line, no bridges were destroyed, and it was again open on 5 December. Photo reconnaissance that day also showed a large accumulation of rolling stock scattered along the line between Verona and Bolzano, evidently caught by attacks on the 2nd.

Weather stopped the B-25s until the 10th, when four bridges, two fills and two potential landslides on the lower Brenner, and the San Michele bridge on the middle Brenner were attacked by 57 Bomb Wing. These attacks were opposed by 12 to 15 enemy fighters, mostly ME-109s, which made attacks on five of the formations and destroyed one B-25 in the Lake Garda area. Four enemy aircraft were destroyed. At the targets flak was heavy, moderate to intense, and destroyed two B-25s. Photo reconnaissance showed seven cuts between San Ambrogio and San Michele; but again it was a matter of cratered approaches and track cuts, with no structural damage to any of the bridges. It is impossible to say just how long these cuts were effective, for our next complete photo coverage was not until 22 December, when the line was seen to be serviceable. Weather prevented medium bombing until the 26th, but fighter bombers claimed numerous track cuts as well as the destruction of rolling stock.

On 26 December 57 Wing bombed bridges at Rovereto and Calliano, a fill at Dolce and a potential landslide at San Ambrogio, blocking the line at four places. On the same day heavy bombers of 15 Air Force attacked Lavis viaduct and the main bridge at Ora, making temporary blocks at these points.

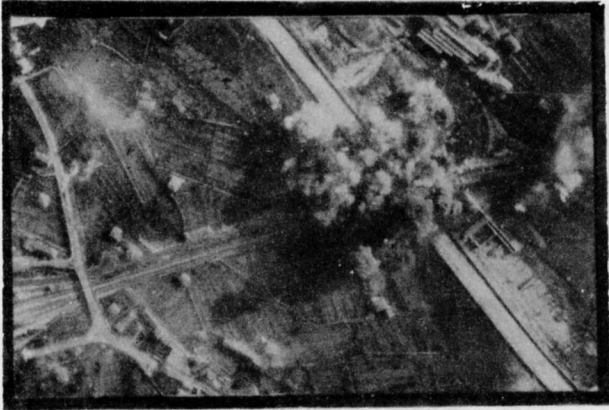
On 27 December medium bombers were again over the bridges at Calliano and Rovereto, and a tunnel entrance at San Ambrogio. 15 Air Force heavy bombers attacked Bressanone bridge on the upper Brenner. Photo reconnaissance of 27 December showed at least a single-track line open from San Ambrogio to Innsbruck, except for cuts at Rovereto and Calliano. Heavies, on 28 and 29 December, attacked Innsbruck and Verona marshalling yards at either end of the Brenner route, the loop line at Colle Isarco and a bridge at Bressanone. 57 Bomb Wing concentrated on the lower Brenner on 29, 30 and 31 December, on bridges at Calliano, Rovereto, San Margherita and Ala, and a fill at Dolce. The middle Brenner was struck once with Lavis viaduct as the target. Numerous cuts were made, but at the end of the month the middle and upper Brenner were serviceable throughout. It was only by repeated attacks that interdiction on the lower Brenner was maintained, for seldom had the German put forth



BEFORE



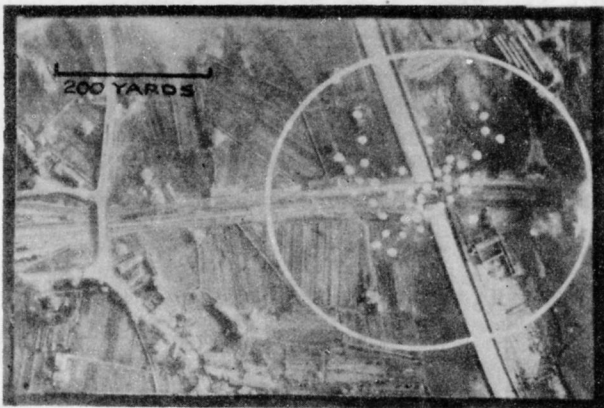
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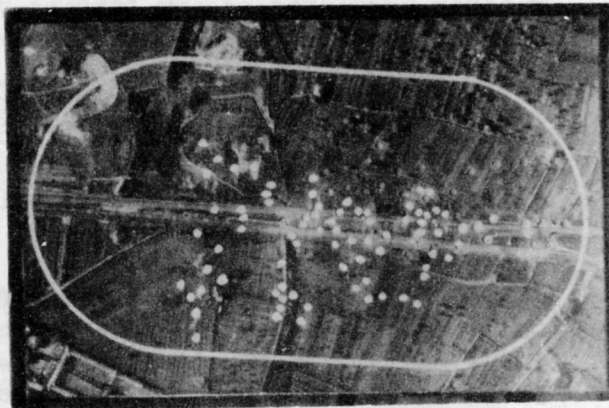
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AFTER



BOMB FALL PLOT

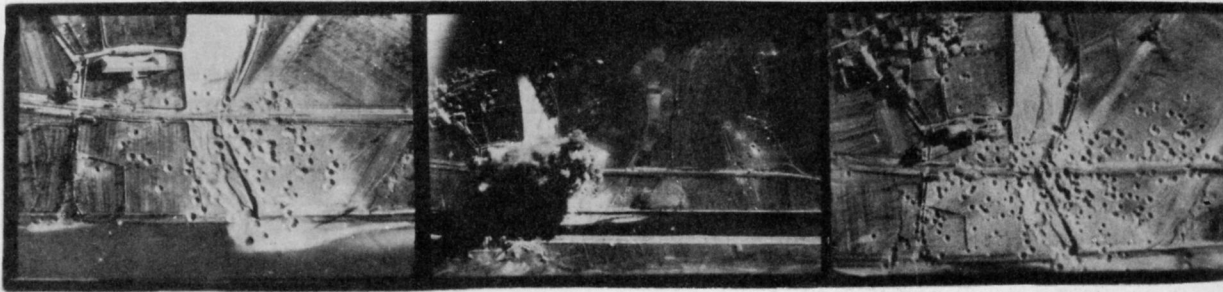


BOMB FALL PLOT

ROVERETO RAILROAD BRIDGE

ROVERETO RAIL FILL

both of these important targets at Rovereto were attacked and effectively cut on 6 November, 1944, when 36 B-25s dropped 72 tons of 1000-pound bombs, without loss.



CALLIANO R. R. BRIDGE



SAN MICHELE R. R. BRIDGE

The above "Before, during and after" series shows successful attacks on two Brenner line bridge targets, both of which had spans destroyed by the bombings. The bridge at Calliano, 120 feet long, is typical of the small size of most of the Brenner bridges, the successful bombing of which required a maximum degree of pinpoint accuracy.

such strenuous repair efforts. The bridge at Calliano was completely destroyed on the 27th, and within 48 hours was again serviceable for single-line traffic. The badly damaged Rovereto bridge and its cratered approaches were opened for traffic within 24 hours.

January had a total of 16 days on which unfavorable flying conditions kept 57 Bomb Wing from even third priority communication targets. Although the enemy's repair activities were also retarded, the advantage was in favor of the Germans. The line was open to through traffic from the 6th to 15th and 25th to 27th, or 12 days during January. The lower Brenner was blocked for the first five days of the month, serviceable from the 6th to the 15th, closed from the 15th to the 24th, open until cut at Rovereto on the 28th, and blocked for the remainder of the month. The middle Brenner was blocked temporarily at Trento marshalling yard by 15 Air Force heavy bombers on 4 January, was open from the 5th to the 20th, cut at Lavis from the 20th to the 25th, and was then serviceable for the remainder of the month, with the possible exception of a temporary block at Trento marshalling yard on the 30th.

The 57 Bomb Wing, unable to attack the Brenner pass line due to target weather on 1 and 2 January, struck the Lavis viaduct and diversion bridges, Rovereto bridge, Calliano bridges, and the south

bridge at San Margherita on 3 and 4 January. Photo reconnaissance showed the line blocked at Rovereto, Calliano, and Lavis. Lavis diversion was not covered and may have been serviceable. A ground source stated "There was no railway traffic in either direction on the Brenner line between Verona and Germany from 1 to 7 January.". Another ground report which lends credence to the reported blocks said, "Road traffic on the east side of Lake Garda increased considerably during the first week in January when 750 motor vehicles passed southward and 940 northward."

The weather closed in on the 5th and prevented operations until 15 January when they were resumed by 57 Wing with three missions on the middle Brenner and four on the lower Brenner. Photo reconnaissance showed the latter cut at Ala and San Margherita. An example of the interdiction is the experience of 710 Infantry division which entered Italy during the first part of January, having left a Danish port by train for Italy on 2 December. The division passed through Munich and instead of using the more direct Brenner line was routed through Salzburg and entered Italy over the Tarvisio line. Weather again cancelled operations on the 16th, but on the 17th and 18th B-25s made a total of 12 successful attacks from San Ambrogio on the lower Brenner to Ora on the middle Brenner. Although smoke screens interfered, several cuts were made at Ora and San Michele. The lower Brenner bridge at Ala was destroyed and the line blocked at Calliano and San Ambrogio. At this time a ground report confirmed the fact that the line was available for such short intervals of time that only first priority military goods were moved. Another report stated in part, "From 15 to 21 January only three trains carrying ammunition and petrol passed over the Brenner for the south. The Brenner is functioning spasmodically." When weather closed in on the 19th, the line was known to be cut at three points. Many reports indicated that its partial interdiction had driven the enemy to the roads. Heavy motor transport movement was observed from the air all along the Adige valley and down the east side of Lake Garda on the night of 17-18 January, while very little rail activity was reported south of Trento between 16 and 20 January. In view of the enemy's lack of gasoline, relative inefficiency of substitute motor fuels and his none-too-adequate motor transport, the importance of keeping the railways in operation could not be overemphasized.

When the Russians began their winter offensive on 12 January, with such overwhelming success, it became necessary for the German high command to secure additional forces for that front. Five average divisions could be withdrawn from Italy without seriously affecting the German ability to hold winter positions. For the first time concrete results of the Battle of the Brenner and the rail interdiction in northeast Italy became apparent. About 15 January, 1945, Kesselring's 356 Infantry division began a move to the eastern front. Three weeks later all elements had not yet cleared Italy. Conditions for movement of large bodies of troops were chaotic. Units sat on rail sidings for days awaiting clearance of road blocks and repair of bridges. Only by successive stages of rail, motor and foot movement could any progress be made. In normal times the Brenner pass lines alone could carry three to five divisions simultaneously. The German armies in Italy had become relatively self-sufficient in food and

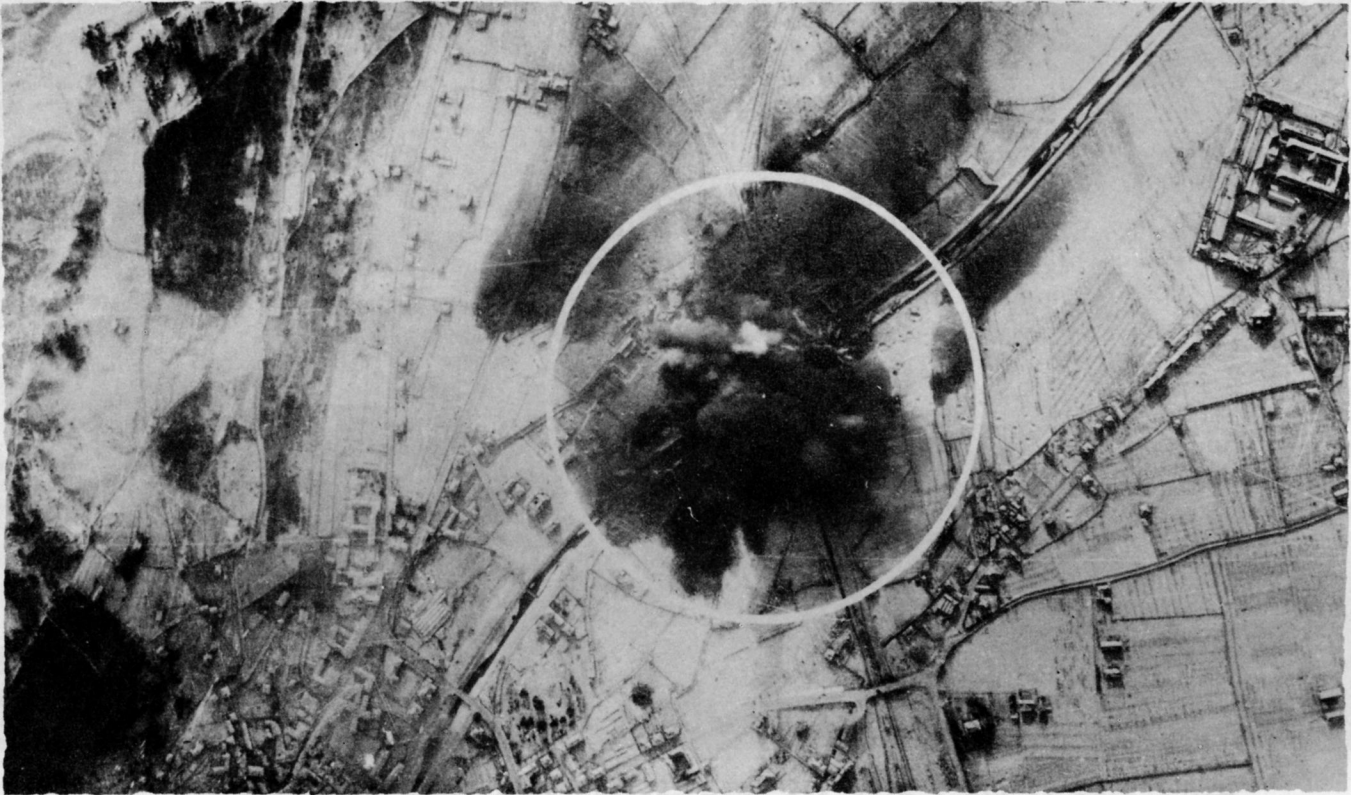


Smoke pots combined with the ever-present haze often increased the problem of identification of many Brenner pass targets. Here are seen B-25s after the completion of a 180-degree turn, following the successful attacks on the Ora main and diversion railroad bridges on 6 March.

many other supplies, so that their minimum necessary tonnage from Germany had been adequately handled. But the attempt at large scale troop movement showed the full effect of Allied interdiction bombing in isolating the Italian front.

Weather cleared somewhat on the 20th and four successful missions were made against the middle Brenner. One B-25 was lost to heavy, intense, accurate flak at Trento. Attacks on the middle Brenner and on Roverete bridge continued on the 21st and 22nd in spite of high winds and extreme turbulence. Three spans of Lavis viaduct were destroyed and cuts or blocks were inflicted at six other points. One B-25 was lost in a mid-air collision caused by turbulent air at San Michele. Non-operational weather prevented bombing on the Brenner until 28 January. From the 28th to the 31st inclusive, eleven missions successfully attacked primary targets. Route and target weather caused four other formations to bomb alternate targets or to turn back to base. Extreme turbulence interfered with accurate bombing and, although the line was blocked at many points, no great damage resulted. Photo reconnaissance on 31 January revealed

that the Germans continued to maintain their repair activities on a high level. The line was known to be blocked at only four places.



On 31 January, 24 B-25s secured complete coverage of this Brenner rail-road bridge. The bomb pattern, which partially blends into the snow-covered terrain, is circled, showing the center of impact to be squarely on the target.

The month of February was the turning point in the Battle of the Brenner. For the first time since medium bombers commenced attacking the enemy's rail lines leading into Italy, the Brenner pass route was blocked throughout the month. Rail interdiction during February probably did not result in any acute shortage of supplies because of the lull in ground fighting, but no build-up was possible. The only direct information on enemy supply was from numerous reliable ground reports of coal shortages for both railways and industries. Troop trains were delayed, and much movement was made by motor transport, with a consequent increase in motor fuel consumption, which the enemy could ill afford. The movement of 16 SS Panzer Grenadier Division "Reichsfuehrer" out of Italy, which commenced at the beginning of the month, took approximately three weeks and at least part of the division had to move by motor transport. According to ground reports, some troops of 16 SS Division were seen moving on foot through the rear areas, while in the Adige valley, northward-moving motor transports were held up when their fuel was exhausted. One unit was al-

legedly reduced to buying fuel on the black market. Weather was unusually good during the latter part of February and bombing on the Brenner was prevented on only eight days during the entire month.

Ground sources and prisoners of war reporting on the difficulties encountered in traveling by rail made it evident that repair facilities were being taxed to their maximum. With the Brenner interdicted, it might have been expected that some use would have been made of the Fortezza-Dobbiaco-Conegliano and the Trento-Cittadella loop lines. The latter route was cut at Cismon bridge where a 60-foot span was down during the entire month. It was suggested that the bridge might have been night operational since, whenever the approaches were damaged or other points on the line were out, repairs were always effected without delay, but frequent photo reconnaissance did not reveal any unusual activity. The alternate route via Dobbiaco could have been used only for the transportation of troops, since trans-shipments would have been necessary at both Dobbiaco and Piave di Cadore, as this stretch is narrow-gauge electric while the remainder of the route is standard-gauge steam. Some slight activity was noted, but nothing to indicate that the line was used for any large-scale troop movement.

By 8 February, four substantial blocks had been created, principally at Lavis (Avisio) where destroyed spans made both the viaduct and diversion bridge impassable, at Rovereto, which was heavily damaged, and at Calliano, where the bridge approaches were cratered. Heavy, moderate to intense, accurate flak which opposed the medium bombers destroyed seven and damaged 93 of the 240 B-25s on these missions. Favored by the weather, which prevented attacks on the 9th, 10th and 11th, German repair crews made gains. Calliano was repaired by the 10th and Rovereto was passable by the 11th. The day following the completion of repairs at Rovereto the bridge at Ala was completely destroyed and remained so until 18 February. In this connection it is pointed out that the bridge at Ala was attacked 11 times by mediums and five times by fighter bombers during February, blocking the bridge continuously from the 11th to the end of the month, and leaving it open only six days during the first part of the month.

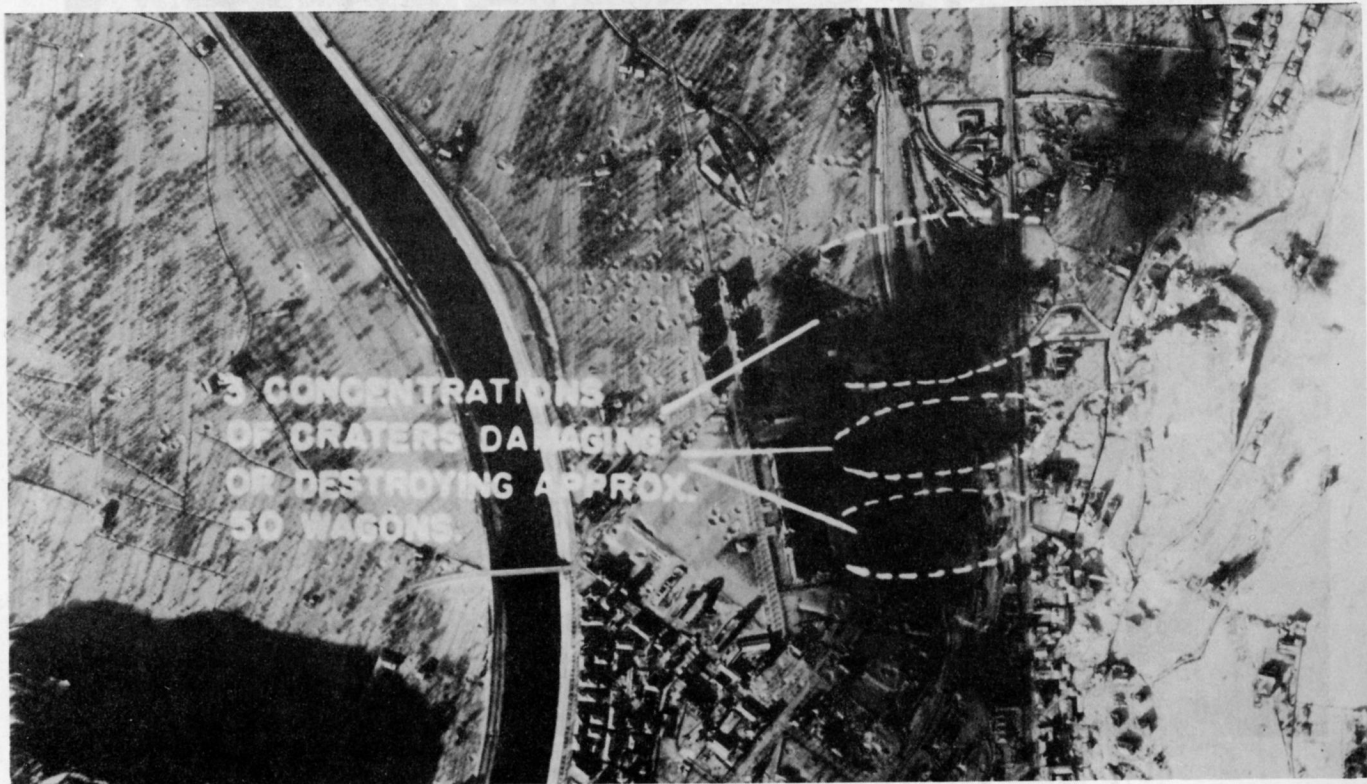
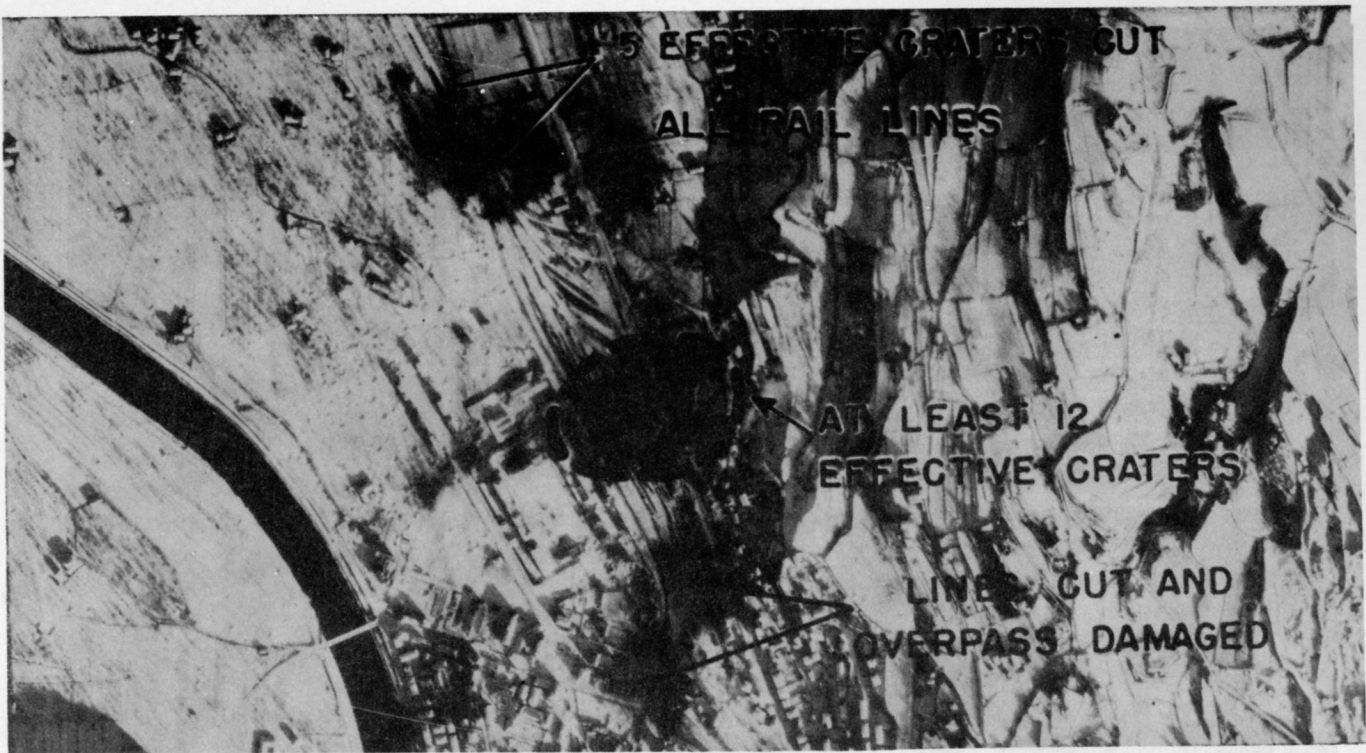
Perhaps the most important development in February was the fact that B-25s extended their zone of interdiction northward to a point only 23 miles south of the Brenner pass itself. On 14 February, the line was blocked by several well-spaced cuts below Bolzano. The first attacks by medium bombers on the upper Brenner were made on this date and during the remaining two weeks of the month a total of nine attacks was made on bridges north of Bolzano. An attack on Ponte all'Isarco bridge on 14 February was unsuccessful because of adjacent steep-sided mountains which made it impossible to pick up the target in sufficient time before the bomb release point. However the attack on the Bressanone bridge on the 14th blocked the line, the first time the Brenner had been blocked north of Bolzano in over two months. The damage caused was slight and repairs may have been completed before the bridge was again attacked on the 17th. This time damage to the

bridge required several days to repair. It was again attacked on 22 February and as a result of these three attacks was impassable from 14 through 23 February. Temporary blocks were created at Campo di Trens, making the line impassable at that point on 23, 25 and 26 February. The Vipiteno bridge, attacked on 25 February, was severely damaged and remained impassable for the remainder of the month. Heavy flak opposition to the attacks on the upper Brenner on 14 and 17 February was scant and inaccurate. However, the flak defenses of the upper Brenner were quickly strengthened and re-deployed in such a way that the attacks on 22, 23 and 25 February were opposed by heavy, moderate to intense, accurate flak which destroyed three and damaged 25 of the 129 B-25s participating in the missions.

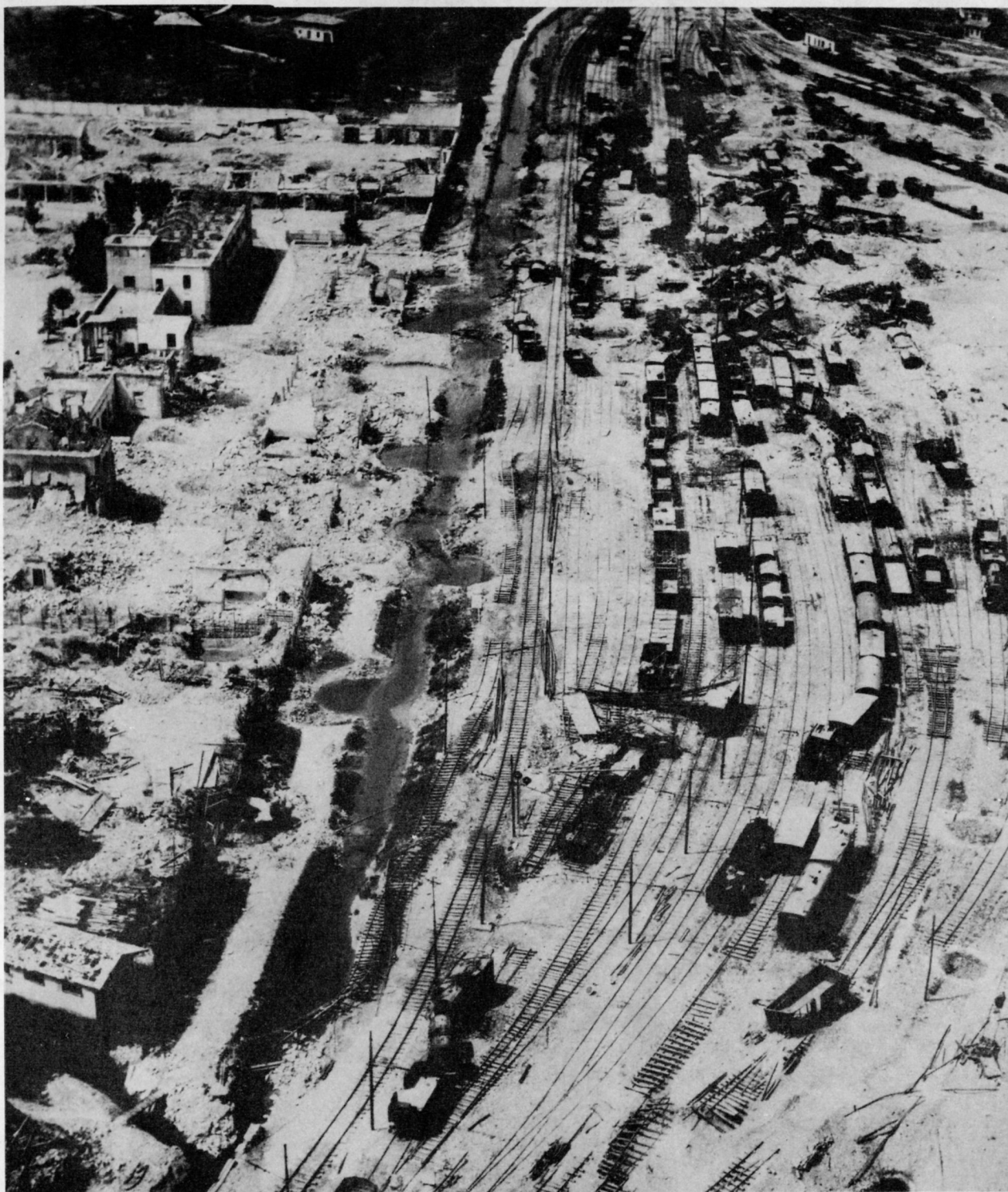


In February, for the first time, B-25s struck north of Bolzano and on the 17th a formation of 30 aircraft successfully bombed this railroad bridge near Bressanone.

Medium bombardment operations over the lower and middle Brenner, in the face of formidable flak concentrations, difficult weather and terrain and targets demanding pin-point accuracy, had achieved considerable success. Although these operational difficulties grew as attacks moved further north, it was determined to push the medium bombers still farther to the upper Brenner. Before these attacks in February, medium bombers had struck as far north as Ora. Until now the enemy had practically continuous use of the railway north of Bolzano, occasional attacks by heavy bombers having cut the line for only short periods. With the blocking of the Bressanone bridge, the zone of rail interdiction was deepened by 40 miles and ultimately, as the zone of attacks was moved still further north to Matrei, Austria, by more than 80 miles. Until this time the enemy had been able to maintain his forward railheads in the Ora and Trento area; now he was forced north of Bolzano. Increased handling of supplies and trans-shipment was required. More important, as the depth of



Top: A very successful attack was carried out on 20 January against the Trento north marshalling yard. In the face of intense flak and a moderate smoke screen, 54 B-25s cut through lines in several places and destroyed or damaged 60 to 70 units of rolling stock. Aiming points were well covered as shown in the snow-covered reconnaissance picture above. Bottom: Ten days later an almost equally successful attack was carried out when through lines were again cut and approximately 50 units of rolling stock were destroyed.



This photo looking up the Trento yard clearly shows the heavy damage done to the tracks and repair facilities. Note single through line which has been repaired along west side of yard.

rail interdiction was doubled, the commitment falling on Brenner motor transport was also doubled. As the air front moved north, the enemy was forced to hold his supplies along the upper Adige and Isarco river valleys until transport could be made available to move them south. This extension of attacks also added to the burdens of repair crews who were now forced to travel appreciable distances to mend the line. At the beginning of February there was evidence that the enemy's rate of repair had increased. By the end of the month, however, the position was reversed, and there were many indications that the Germans were unable to cope with the rate at which damage was being inflicted.

While temporary blocks lasting anywhere from 12 hours to five days were continually created on the middle Brenner, there was no long term block involving heavy structural damage, until 27 and 28 February when the main bridge at San Michele and the diversion bridge were both destroyed. On 28 February a full scale effort against the Brenner pass line was made by 15 Air Force on the bridges at Verona and Bressanone, and marshalling yards at Ora, Bolzano, Bressanone, Fortezza, Vipiteno and Colle Isarco. The Bressanone bridge was rendered impassable, with both approaches cut, the south span of the west track destroyed, the north span damaged, and both spans of the east track damaged. The Verona-Parona bridge, five miles northwest of Verona, had two spans destroyed and the north abutment severely damaged. This meant that the only available rail route to the Brenner pass line from the South was the old standard-gauge, single-track, by-pass line out of Verona. The southern terminal of this by-pass is in the northwest sector of the city and there was no connection with the two main marshalling yards, both of which are located in the southern part of Verona. A steep-grade, connecting line was built to the Brenner route at the San Ambrogio station, a point which would very quickly become a serious bottle-neck if any large quantity of traffic were involved, since the marshalling facilities are extremely limited. A second connection to the main line by-passing the Parona bridge was later made further south, but no reports were ever received which would indicate either by-pass saw much use. By the end of the month, with at least nine well-spaced and substantial cuts, interdiction was established on the Brenner pass line throughout its entire length. It quickly became evident that the policy of attacking as far north as possible and spacing attacks along the line so that one or more cuts had to be repaired before repair trains could reach another cut was paying dividends. The rate at which the enemy was completing repairs was declining rapidly.

Unusually good March weather permitted 57 Wing to carry out Brenner attacks on 24 of 31 days, including 20 consecutive days from the 6th through the 25th. In this month B-25s broke their previous record for total number of rail bridges destroyed. Photographic reconnaissance showed that 41 rail bridges were destroyed, 10 more than the record of 31 set in July, 1944. Considering the scarcity of bridge targets on the Brenner and the large number of fills attacked, this figure becomes even more outstanding. In addition to those destroyed, 11 other bridges were seriously damaged. The Brenner was blocked during March for the second straight month and the scale of

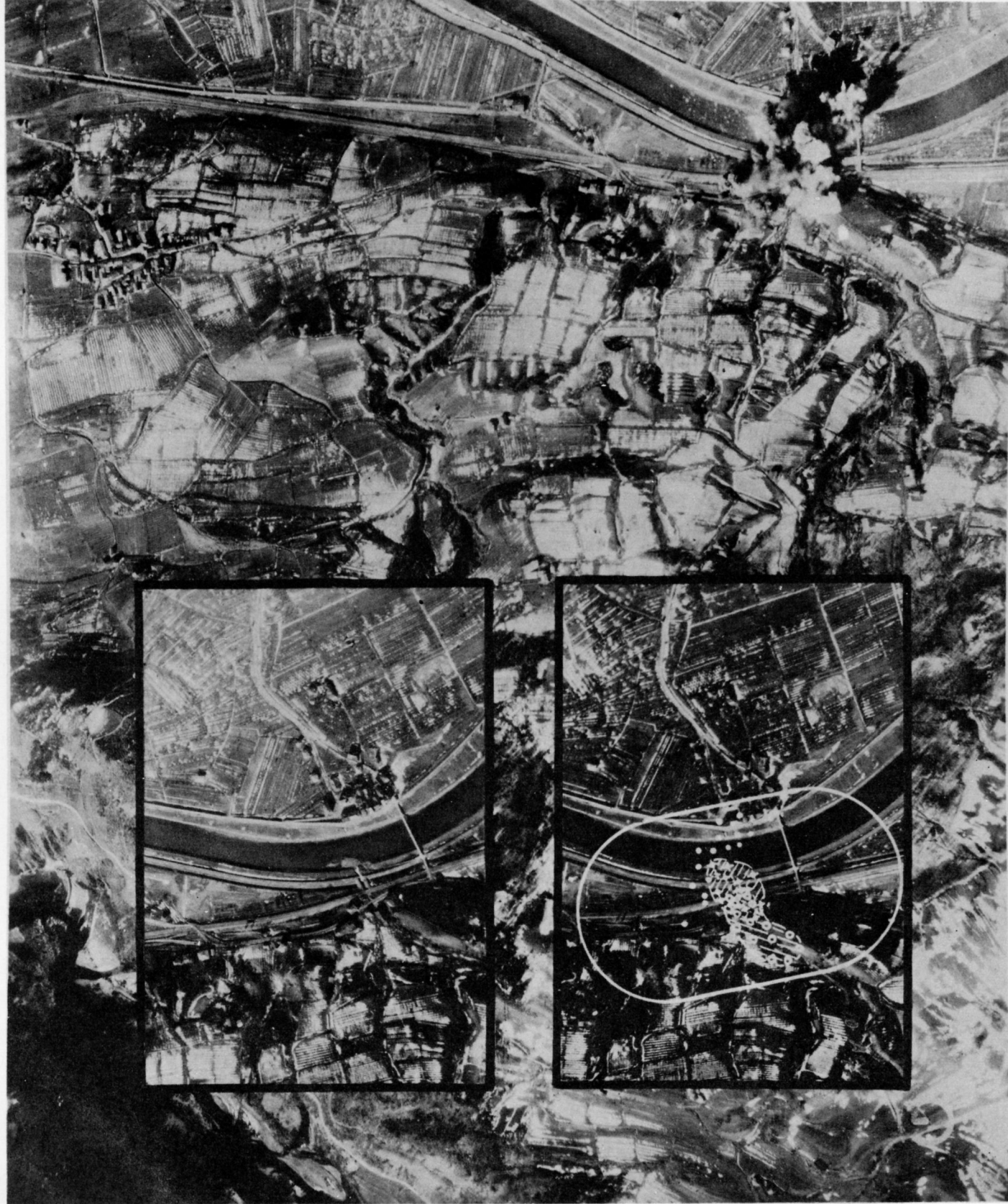


photo reconnaissance taken after this 23 February attack on the San Felice rail fill showed the tracks cut by seven craters. As a result of this bombing the Brenner line was blocked at this point for at least eight days.

interdiction was considerably higher than at any previous time. During February the line had been cut in at least one place for 28 consecutive days. In March the middle Brenner was out every day, the lower Brenner was out for 29 days and the upper Brenner for 23 days. As a direct result of 57 Wing attacks, through traffic was prevented throughout the month. Until the four days of bad weather beginning 25 March, B-25s maintained unusually effective interdiction, especially so because the cuts were well-spaced throughout the 168 miles of track between Verona and Innsbruck. Photo cover of 12 March showed 14 substantial cuts, 13 by 57 Wing. There were at least six other days when 10 cuts or more were reported by photographic reconnaissance.

Heavy interdiction continued to force the enemy's rail heads north to Bolzano and on occasion still farther north. Throughout the month, fairly heavy road traffic was noted moving up the Adige valley and along the roads through the mountains to the west. This movement probably represented the passage north of 715 Infantry Division which followed 356 Infantry Division and 16 S.S. Panzer Grenadier Division on the trek to Germany. Instead of the rapid movement of these troops which would have given real aid on the eastern front, the evacuation of these three divisions was spread over two months. Actually, none of these divisions was able to re-equip and re-organize in time to make a contribution to other fronts commensurate with its potential strength. Air power in Italy had cancelled effectively the value of these units for the enemy's most critical period.

Rail movement in March included some shipment of foodstuffs and industrial equipment and products to Germany. However, ground sources stated that large amounts of goods and materials destined for Germany were stored in the Adige valley because of transportation difficulties. The enemy's administrative position in Italy was severely threatened. He was probably meeting his day-to-day supply requirements only with great difficulty. The stage was being set for the great spring offensive when these daily requirements would be greatly increased. His need for motor transport and fuel were critical. In the face of this grave shortage of fuel, the enemy was forced to employ methane, alcohol, and benzol as substitutes supplemented by the production of a few small oil fields in Italy. Second only to the shortage of motor fuel was the shortage of coal. Practically none is produced in northern Italy and, except for a small amount from Istria, all the coal required by both the German armies and the Italian industries and railways had to be imported from the Reich. Up to 1 March the majority of this supply was transported through Switzerland; however, on or about that date the Swiss government placed an embargo on the passage of coal and by mid-March it was reported that only one-fifth of the daily requirement was reaching Italy. In spite of the most rigid control, coal stocks in the country were at that time reported to be sufficient for only 30 to 40 days and it is probable that later they were much lower. So acute was the shortage that railway steam engines were forced to burn wood, but it was impossible to replenish Italian stocks.

On 1 March no operations were carried out because of weather, but on that date photo reconnaissance showed the line effectively cut

by attacks carried out late in February. As a result of 57 Wing efforts the lower Brenner was blocked at Ala and the middle Brenner at Nave San Felice, San Michele junction and the San Michele main and diversion bridges. On the upper line, the Vipiteno bridge remained cut. In addition, 15 Air Force on 28 February cut the line at the Parona and Bressanone bridges, making a total of seven effective blocks, covering approximately 125 miles. Five of these cuts remained through 4 March, and on 3 and 4 March, clearing skies permitted the mediums to return to ten targets on the lower and middle sections, re-establishing the total cuts on the line at seven. Included among these were strikes at the San Michele main and diversion bridges. The diversion bridge was attacked eight times during the month, and despite feverish repair was never made serviceable. Spongy ground hindered repair. Culverts, prefabricated spans and fills were attempted by the beleaguered repair crews, but in each case accurate bombing demolished their accomplishments. When it appeared that repairs were nearing completion at this target the medium bombers would hit it again to insure that a continuous block was maintained. Though repairs were carried out rapidly here, at other points, particularly on the lower Brenner, track cuts remained unrepaired much longer than had been anticipated. The overburdening of facilities and the first spring thaws were increasing the repair problem. Photo reconnaissance showed that craters in fills and approaches were filled with water, a condition which lessened the stability of the rail bed and slowed repairs.

Weather prevented operations on 5 March, but on the 6th a period of 20 consecutive days of operations was begun. On several occasions during this period, weather resulted in abortive missions and excessive turbulence often limited results, but on each day at least one attack was carried out on the Brenner. The attacks on 6 March added three temporary blocks to the line and a fourth was added the next day. On 8 March the Rovereto bridge was destroyed and remained out until the 24th, supplementing the blocks on fills. San Ambrogio bridge was hit and blocked again. Continuing through the 13th, attacks were concentrated on fills south of Trento. Other bridges which were attacked included the Ala and San Michele diversion which were destroyed, and the bridge at Ora, where four B-25s were lost on 10 March to intense flak. Ala bridge remained impassable until the 25th. Motor transport movements made it clear that troops departing over the Brenner had moved by road at least as far north as Bolzano before loading on trains, and road movement had been observed even beyond Bolzano. This heavy use of motor transport intensified the acute lack of gasoline which had made it necessary to issue orders requiring trucks to save their fuel in certain areas and resort to oxen for power.

Throughout the month photo recce had picked up definite indications of troop movements and considerable rail activity on the upper Brenner, and for this reason it was becoming more important daily to extend attacks as far north as possible, despite the operational difficulties involved. On the 14th, with eight cuts effective on the lower Brenner, and the middle Brenner cut at San Michele by medium

bomber attacks, three formations penetrated to the bridges at Vipiteno and Campo; one span of the former was destroyed and the latter was blocked, again closing the upper Brenner which had been open since the 9th. These attacks made it necessary for troops to travel by truck or foot all the way to Brennero or, if loaded in the Bolzano area, they had to be trans-shipped after a rail movement of only 40 miles. However repair was fast and the line was re-opened on the 18th. Both bridges were reattacked on the 20th and spans knocked out of each. After these second attacks the Vipiteno bridge was repaired by the 23rd, but the Campo bridge was not returned to serviceability until the 30th. From the 20th until bad weather interrupted operations on the 26th, the bulk of the medium effort on the Brenner was sent against this section of the line. The targets included the Brennero marshalling yard in the Brenner pass and the Steinach and Matrei bridges in western Austria, the most northerly penetration on the Brenner by Mediterranean-based medium bombers.

Meanwhile, interdiction of the middle and lower Brenner was maintained by medium and fighter bombers. Very little movement was seen in this area, except for local shifting of rolling stock. The general condition of the lower Brenner during this period was well illustrated by the account of a prisoner of war of his movement to and from Italy while on leave. Because of lack of transport it took him a week to get from Trento to Mantua, a distance of approximately 60 miles.



On 13 March a formation of 18 B-25s placed this compact cluster on the 65-foot railroad bridge at vo Sinistro. B-25s accounted for 13 of the 14 cuts in the Brenner line reported by photo recce as of this date.

With no medium attacks possible between 26 and 30 March, it was to be expected that the Brenner would see considerable repair. It is possible that it was open for a short time, although it is doubtful. In any event, the Brenner showed considerable activity, reflecting the movement of material along the railway by means of trans-shipment. Photo cover of the 29th revealed an unusual amount of movement since the 25th and it was evident that the enemy took advantage of the several days of bad flying weather. On 30 and 31 March medium bombers, imposed new blocks on the lower at San Ambrogio and Rovereto, strengthened the block in the middle and cut the upper Brenner at Steinach. Carrying the Parona bridge at Verona as "night operational", seen to be "in" on photo cover of the night of 1/2 April, the month closed with six effective blocks.

Bad weather limited operations on 1 April, when only two of six formations were able to reach their targets, but one block was added on the middle Brenner bringing the total cuts to seven. Better weather followed on 2 April and six formations attacked targets all along the line. Satisfactory results were achieved by four missions on 4 April, but photo reconnaissance following medium attacks on that day showed repairs being carried out rapidly. The Brenner was cut in only five places, three on the lower Brenner and two on the middle Brenner, with the best cut at the Rovereto bridge, destroyed by the mediums on 4 April. Following this attack two spans were removed from the Ala bridge a few miles south, presumably to protect it from attack until the Rovereto bridge could be opened. In an attack on the middle Brenner on 4 April, one formation strengthened the block here by destroying the 100-foot San Michele bridge north of the main bridge, which at this time, with repair nearly completed and a large rail crane present on the approach, was believed to be night operational. Two of four missions on 5 April were dispatched against the upper section, blocking the line at Matrei and possibly at Steinach. Weather again prevented operations on 6 and 7 April, but on 8 April, the day before 15 Army Group was to launch its spring offensive, five missions were dispatched to the Brenner by 57 Wing, and seven targets were attacked by 401 heavy bombers of 15 Air Force. Subsequent photo reconnaissance showed the line blocked at the following 13 points; Parona bridge was impassable as a result of a 15 Air Force attack, but repairs were nearing completion and it was expected it would be serviceable in a day or two. Mediums at San Ambrogio and Vo Sinistro cut approaches in each case. Ala bridge remained impassable. Rovereto remained cut but repairs were progressing rapidly and it appeared doubtful that the soil was still soggy. San Michele main bridge was hit by heavy bombers which cut both approaches; although it was now impassable, this bridge was probably in operation on the night 7/8 April. Two spans were missing from the bridge, a crane was seen on the approach and ballast wagons to repair San Michele north bridge had appeared between the two impassable structures. The diversion bridge also remained impassable. The line to the north remained blocked south of Salerno station, while across the Adige river on the diversion, Salerno fill remained cut. At Ora bridge the north approach was cut, probably by fighter bombers and the diversion remained blocked. MASAF attacks were concentrated on the line north of Bolzano where coverage

prior to the five attacks showed the line open. Bomb damage assessment photos showed both approaches cut at Vipiteno bridge, one approach cut at Campo north bridge and the line blocked at two places farther north. Fortezza marshalling yards were attacked but through lines remained open. At Bressanone bridge one span was knocked out and another damaged. Campodazzo bridge was blocked.

On 9 April, 15 Army Group launched what was to be the last battle in Italy. The railways in the northeast, particularly the Brenner, were badly crippled. While no immediate collapse by the enemy was expected from a shortage of supplies, it was thought that he would not have sufficient transport to move men, equipment and supplies as battle requirements developed. For eight months the German command in Italy had done everything in its power to cut down on the consumption of gasoline and diesel fuels by the use of substitutes, heavy reliance on horse-drawn transport, movement of troops on foot and other economy measures. However, the continual dislocation of the railways over a long period had forced him to use a large number of motor vehicles, aggravating the critical shortages of both vehicles and fuel. On 10 April a ground source reported that in the case of a general withdrawal, fuel stocks were enough to take 10 and 14 Armies' vehicles only as far as Verona and those of the Army Liguria to Brescia. Any further movement would have to be by rail.

With all available aircraft on army support targets on 9 and 10 April, Brenner repair crews were granted some respite from the heavy attacks carried out earlier in the month. On 9 April the 13 blocks had been reduced to 11 and on the 10th this number was further reduced to six. On the lower Brenner, with the Parona and Ala bridges open at will, only the Rovereto bridge was definitely cut and there repairs appeared to be approaching completion. In addition there were three cuts in the middle and two on the upper Brenner, but of the six cuts, only the middle Brenner cut at San Michele appeared lasting. Despite the urgent need for close support on 11 April, 78 of the 354 B-25 sorties were dispatched to Brenner rail targets. 15 Air Force heavy bombers again attacked the Brenner and the combined effort boosted the total blocks to 13, although prior to attacks of that day the total cuts had been reduced to three.

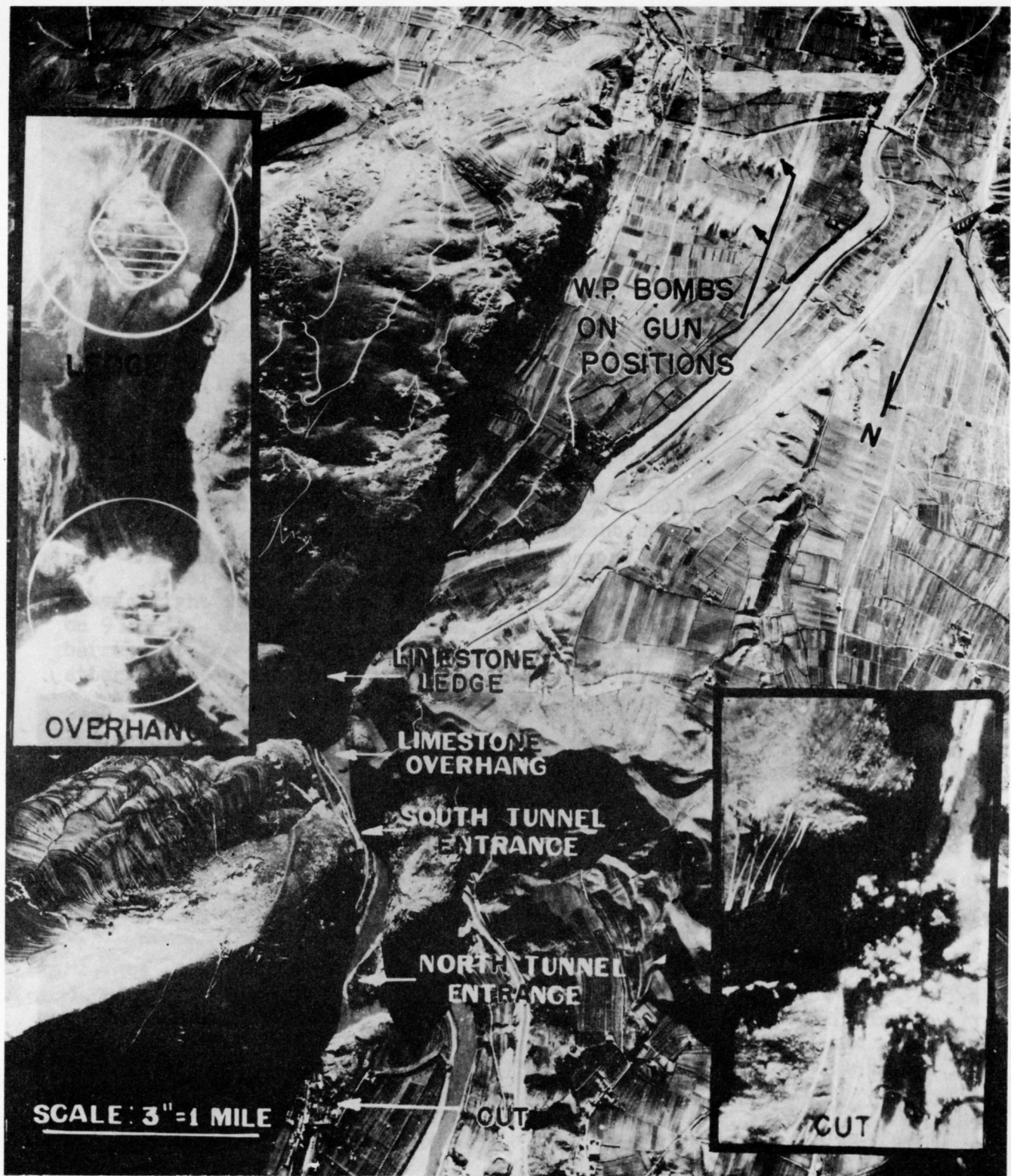
With army support missions taking first priority (398 sorties were dispatched against army targets on 16 April) only five Brenner targets were attacked on the five days from 12 to 16 April. During this period the scale of interdiction declined rapidly and had been reduced to five cuts by 15 April. Photographic cover on this day (weather prevented cover on the 16th) showed that the entire upper Brenner had been opened, so four missions were dispatched to that section on the 17th and the line was cut in two places at Steinach and one at Matrei. On the 17th it was seen that all but three of the blocks on the lower Brenner were repaired and that these were nearing completion. Attacks were again moved south on 18 April and

three formations blocked the line at three points. The Brenner was not attacked on 19 April but was hit by mediums on each of the six succeeding days with the exception of 22 April when all 16 missions were dispatched to the vital Po river crossings. An extremely high state of interdiction was achieved on these six days. There were ten cuts present on 19 April but a combined effort by 15 Air Force and 57 Wing on 20 April brought this to 15. One of these 15 Air Force attacks was carried out against the Vipiteno marshalling yards, which careful photographic interpretation had indicated as another target which the enemy would have considerable difficulty repairing because of soggy ground. On 24 April mediums attacked the Calliano bridge for the same reason with equally good results. By the 22nd the number of cuts had dropped to eight, but heavy attacks by 57 Wing on the following three days raised the total to 11, then 15 and finally on 25 April to 18, the highest state of interdiction reached on the Brenner. Photo recon on that day showed 12 cuts south of Trento with the Parona bridge approaches cut, the San Ambrogio, Ala and Rovereto bridges cut, the fills at Volargne, Ceraino, Dolce, Ossenigo, Vo Sinistro and Calliano all heavily cratered and the through lines in Rovereto station cut. The middle section was heavily cut in three places in the Ora-San Michele area, and three well-spaced cuts closed the upper Brenner.

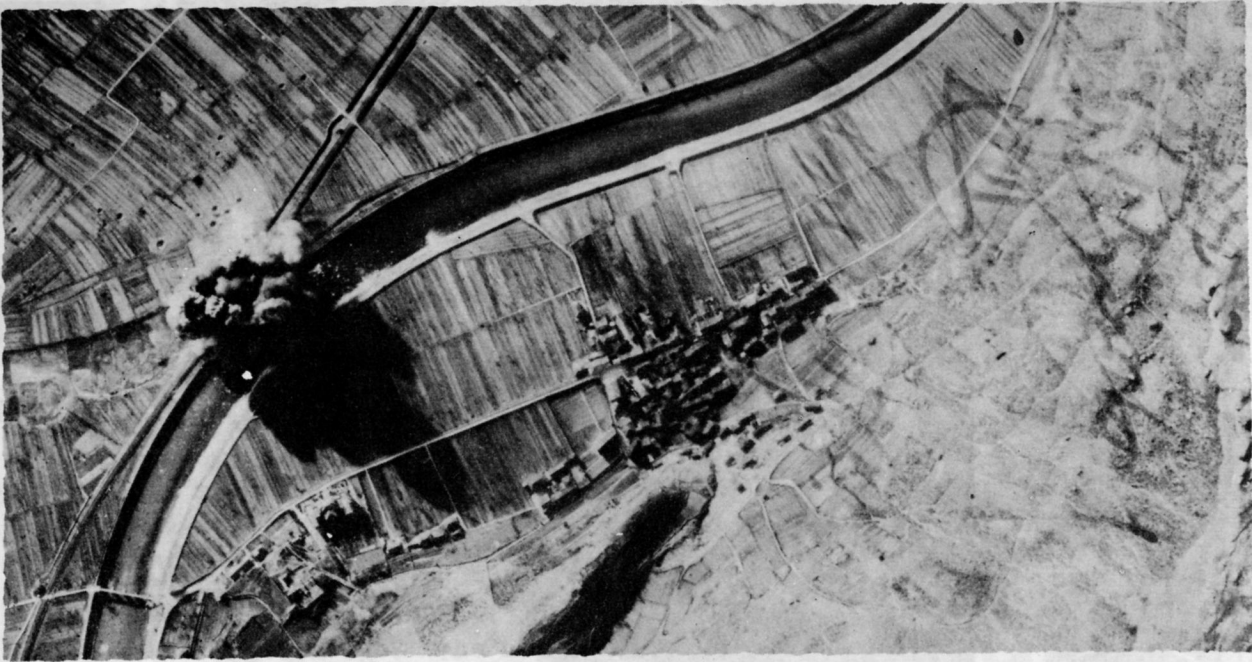
By 25 April the enemy's supply position was seriously weakened. In his retreat to the Po crossings he was forced to use a large part of his already depleted fuel stocks. At the same time he lost his methane sources and alcohol producing factories; producer gas was probably his only substantial source of gasoline and its use was limited to rear areas. Without the arrival of considerable stocks of gasoline and diesel fuel from Germany, 10 and 14 Armies were close to a point where continued large scale motor movement would be impossible. The enemy was unable to evacuate large amounts of the supplies which had been held in dumps south of the Po river and thus a large part of the stocks were overrun. Ammunition in the north was estimated to be sufficient to maintain 10 full divisions for one week to 10 days of hard and continuous fighting. This situation could have been helped by a large increase in deliveries from Germany during the previous weeks. The air interdiction of the Brenner had made this impossible and during the past winter had so over-committed his transport facilities that now he was unable to move his dwindling resources.

25 April, 1945, marked the last attack on the Brenner line and the close of the Battle of the Brenner. With 10th Mountain and 88th Infantry Divisions already in Verona the enemy had abandoned the line south of Trento. Although never carried out, missions were planned for the upper and middle Brenner until the date of von Vietinghof's surrender on 2 May. Photo cover as late as 30 April showed these sections still blocked and it is doubtful that they were ever returned to serviceability. In any event the issue had been decided conclusively.

During the Battle of the Brenner 57 Bomb Wing flew 6,839 sorties and dropped 10,267.51 tons of bombs on Brenner targets. Forty-six aircraft were lost and 532 aircraft were damaged. Three hundred and seventy individual attacks were carried out. Of the 231 attacks for which results were definitely established by photo reconnaissance 209 cut the line, a record of over 90 per cent.



Tunnels, fills, cuts and overhangs often obscured by heavy shadows, were repeatedly attacked in the successful effort to keep the Brenner line blocked. Here is seen a part of the line north of San Ambrogio, where five targets are located within the space of one mile. But despite the natural obstacles, many successful attacks were made, as illustrated by the inset pictures taken on 10 December 1944.



Several direct hits were scored on the 120-foot railroad bridge at Calliano in this 4 January attack by 12 B-25s.



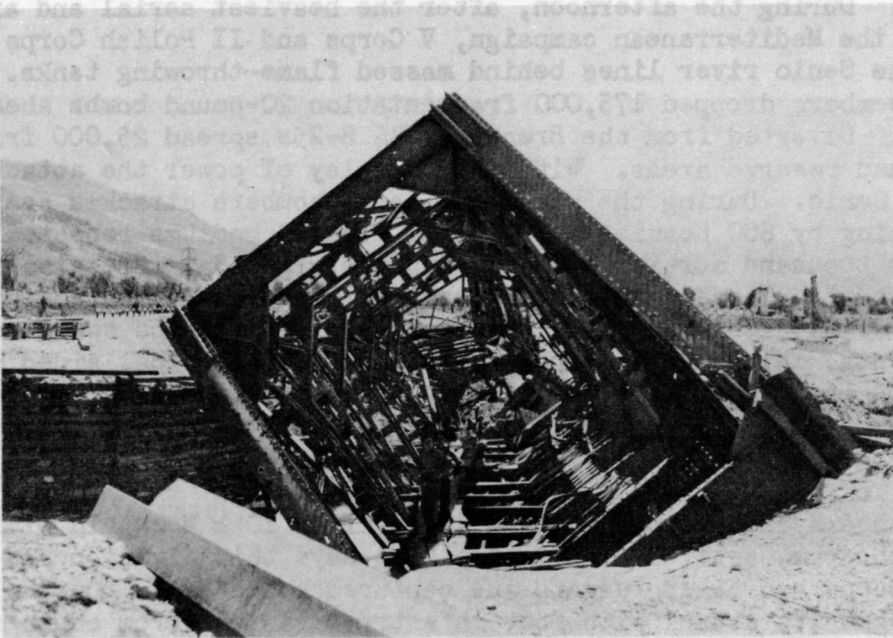
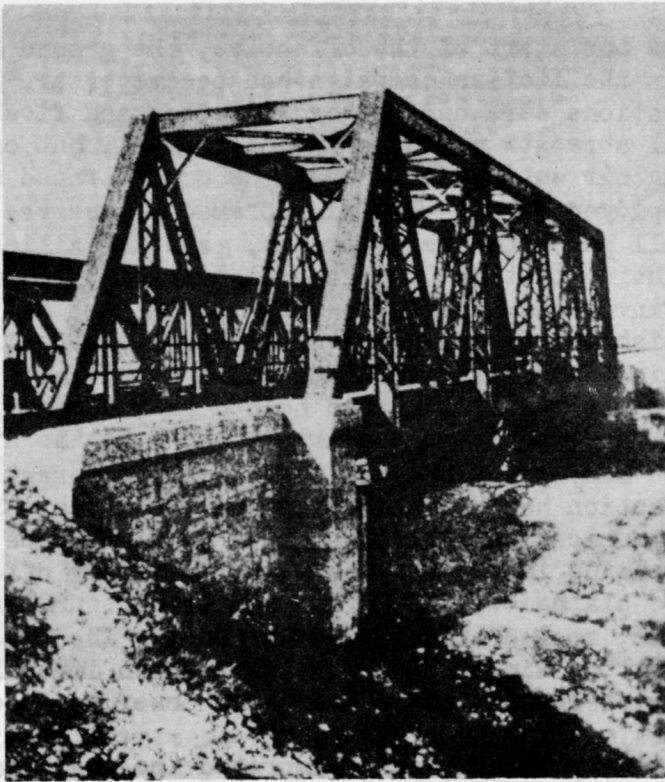
Both the span and abutment were destroyed by this excellent concentration of bombs on the small masonry railroad bridge north of San Michele.

Weeks before the start of the offensive, the ground line-up for the final battle in the Italian campaign had become clear. The 21 Allied divisional organizations were opposed by 25 German and five Italian divisions. Numerical strength was substantially equal, but on a front line of our own choosing our entire force could be concentrated against 19 enemy divisions deployed there. Aerial supremacy, reserves of tanks and artillery, plus full personnel replacements, gave the Allies superiority in the Italian fighting that was disproportionate to the comparative numbers of troops involved. The quiet months of winter had been utilized to rest and replenish our troops. Fifth Army had built new supply roads through the mountains, and unlimited stockpiles of all materials of war had been built up. The rest period had helped the Germans in many ways, and von Vietinghof, successor to Kesselring, had done the utmost with his resources. But the many air blows and the offensive threat of many heavy patrols and local action had kept his troops off balance. Supplies, eked through wrecked communication lines, had been made adequate through the winter with some delving into reserves, but for a heavy offensive in unseasonably dry Po plains everything was short; personnel replacements, ammunition, food and, most critically, motor fuel. The throttling by our air power throughout the winter had not always shown immediate tangible results, but a slow strangulation of Wehrmacht power had been effected.

After preliminary attacks which improved the position of Eight Army's right flank and put 92nd Division into Massa, the big drive began on 9 April. During the afternoon, after the heaviest aerial and artillery barrage of the Mediterranean campaign, V Corps and II Polish Corps troops attacked the Senio river lines behind massed flame-throwing tanks. Over 800 heavy bombers dropped 175,000 fragmentation 20-pound bombs ahead of the attack. Diverted from the Brenner, 234 B-25s spread 25,000 frags on artillery and reserve areas. With this display of power the attack surged across the Senio. During the night 100 heavy bombers attacked again, with carpet bombing by 800 heavies and several hundred mediums repeated 10 April. One thousand sorties of fighter bombers per day were also flown in closest support. The attack rolled forward, grinding German defenses with incessant aerial, artillery and infantry assault. V Corps swung north toward Argenta, which was captured 17 April. The Polcorps, aided by XIII Corps now on its right flank, carried each river defense line which the Germans attempted to hold. Medicina fell 17 April as our troops overran the Idice river defenses, the last before Bologna.

Fifth Army's operations began 14 April as 10th Mountain Division struck north from Castel d'Aiano. In three days this division and other IV Corps troops had taken Vergato and captured Monte Tole. On the 16th, II Corps began its attack with four infantry divisions from south of Bologna. The Germans fought stubbornly and well, particularly in the strong defenses below Bologna, but 10 Mountain Division moved steadily forward to break into the plains and cut the highway northwest of Bologna on 20 April. Bologna's defenses then collapsed and on 21 April, American and Polish troops met in the center of the city. Throughout these breakthrough efforts, tactical air power was used to the utmost. The usual assault of the heavies preceded the II Corps attack 16 April. Mediums struck road bridges around Bologna and dropped frags precisely

shutting the rearward, effectively denied the enemy his major line of supply.



The original Rovereto bridge before and after attack by B-25s.

on every known troop concentration. Fighter bombers ranged over every road and above all positions held by the enemy.

A bridgehead across the Po at San Benedetto was established by 10th Mountain Division 22/23 April with troops driving rapidly ahead against little resistance. Evacuation of the enemy over the Po, from San Benedetto to the Adriatic, was mercilessly pounded by fighters, fighter bombers, and B-25 mediums from the 21st to the 24th of April. The last Germans south of the Po were eliminated by 25 April with heavy casualties in personnel and equipment. Over 50,000 prisoners of war were taken, including GOC of 76 Panzer Corps. While 1,000 destroyed and abandoned motor transport, tanks and self-propelled guns were counted in the final bridgehead area around Polesella, another 300 motor transport were found abandoned and burned for lack of fuel to the west - mute evidence of the effectiveness of our throttling of the enemy's supplies by air.

As 25 April saw the end of the Battle of the Brenner, so it saw the rapid dissolution of the enemy's power in Italy. Our 1st Armored Division cut northwest to reach Switzerland on 28 April. The large Nazi and Fascist forces in west Italy were cut off and subsequently put in the bag. Other American forces, the 85th, 88th and 91st divisions, swung east to take Vicenza on 28 April, as British Eighth Army troops, spearheaded by 2 New Zealand Division and 56 Division took Padua the same day. Venice fell 30 April. Udine and Spilimbergo were occupied 1 May, when New Zealanders linked up with Tito's Jugo-Slav National Army at Monfalcone.

The surrender by General von Vietinghof of his Army Group Southwest at 021400 May, 1945, was anti-climactic in many ways. His Italian combat armies of 325,000 men were destroyed. Possibly only 10,000 combat soldiers, mostly paratroopers, had escaped into the mountains. However, the surrender permitted our 85th Division's patrols to link up with 103rd Division, of Seventh Army in Austria through the Brenner pass on 4 May. The battle for Italy and the Battle of the Brenner were ended with Allied troops in full control. The German defeat in Italy was absolute. This first capitulation of an entire army group by order of its commanding general formed the pattern for the further capitulation of German army groups in Europe, and final unconditional surrender of the Reich at 090001 May, 1945.

Many factors contributed to the German defeat in Italy. Our Allied armies, with troops from many nations welded into a cohesive fighting force, carried out a long, bloody and oftentimes brilliant campaign. Other successes in Europe added to the ultimate victory. Yet the part played by the tactical air forces in securing undisputed control of the air and smashing the enemy unceasingly on the ground was of untold value. In the final analysis there is no doubt that the relentless fight to close off the railroads from north Italy was a major contribution to the success of General Clark's armies. 57 Bomb Wing, in its arduous, sometimes monotonous, and always dangerous mission of closing the Brenner, effectively denied the enemy his major line of supply.

TOTAL NO. OF DAILY CUTS.

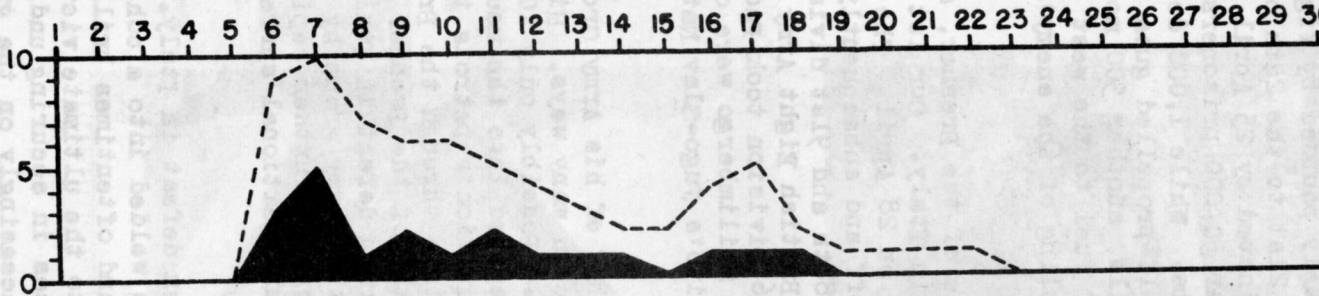
DAILY STATUS OF THE BRENNER RAIL LINE

6 NOV. 1944 TO 25 APRIL 1945

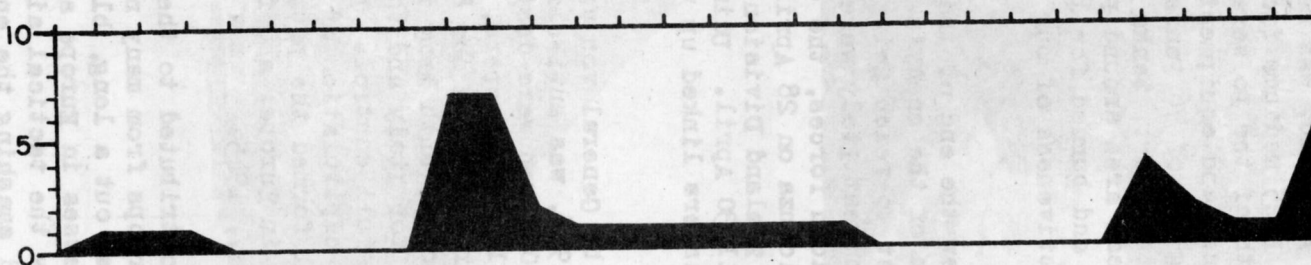
TOTAL NO. OF CUTS IMPOSED BY THE 57TH BOMB. WING.

BASED ON PHOTOGRAPHIC RECONNAISSANCE

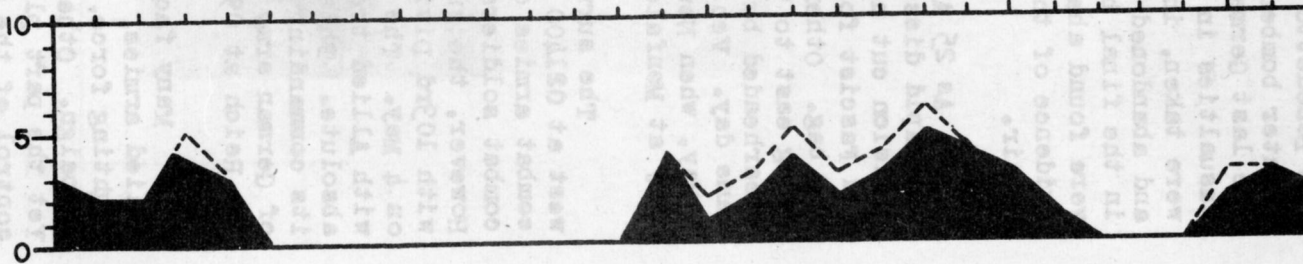
NOVEMBER

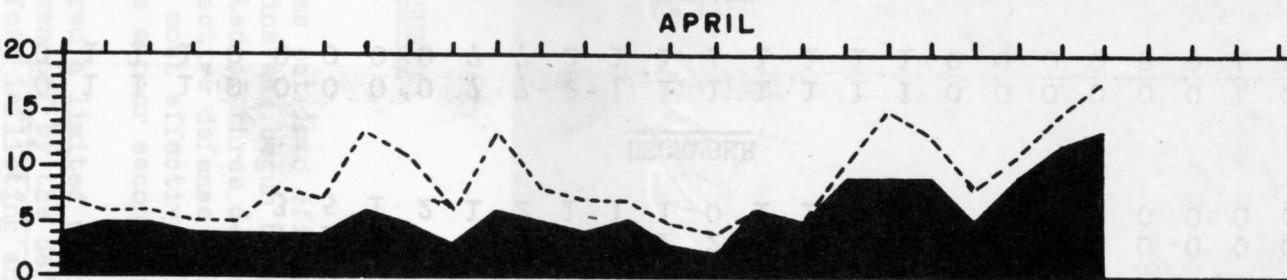
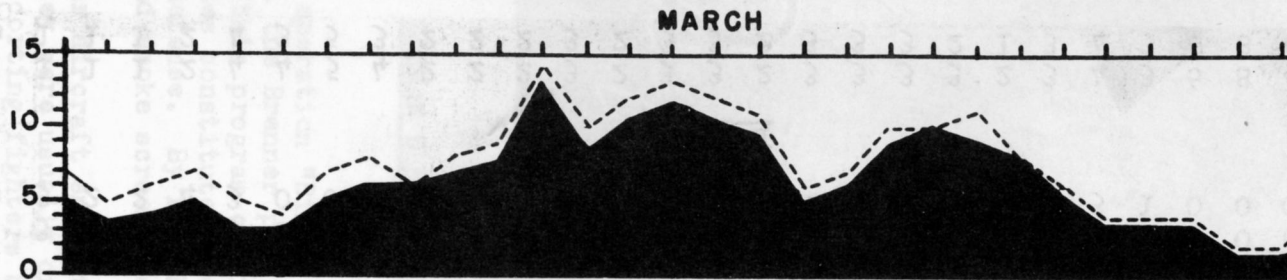
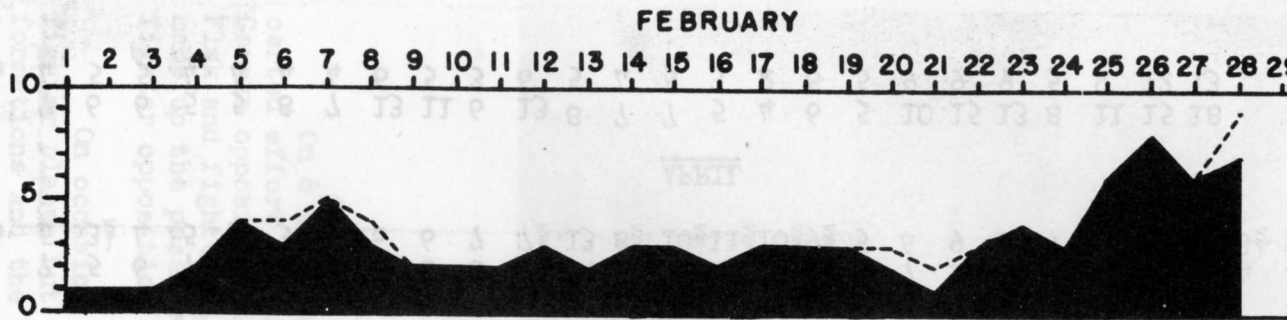


DECEMBER



JANUARY





NOTE: Status of the Brenner Rail Line as shown on this chart is based on photographic reconnaissance reports. In some cases these reports are incomplete and on several occasions photographic cover was not flown until several days after the attack, or after repairs had been completed. Thus it is quite possible that the number of cuts shown on this chart for a given day is lower than the actual number of cuts that existed in the line at that time. Definite results were never obtained on 100 57 Wing attacks; in almost all cases these missions are not credited with cuts.

STATUS OF BRENNER RAIL LINE
Nov. 6, 1944 to April 25, 1945
Based on Photo Reconnaissance

NOVEMBER

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Line Blocks						9	10	7	6	6	5	4	3	2	2	4	5	2	1	1	1	1	0	0	0	0
57 Wing Blocks						3	5	1	2	1	2	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0

DECEMBER

Line Blocks	0	1	1	1	0	0	0	0	0	7	7	2	1	1	1	1	1	1	1	0	0	0	0	0	0	4
57 Wing Blocks	0	1	1	1	0	0	0	0	0	7	7	2	1	1	1	1	1	1	1	0	0	0	0	0	0	4

JANUARY

Line Blocks	3	2	2	5	3	0	0	0	0	0	0	0	0	4	2	3	5	3	4	6	4	3	1	0	0	0
57 Wing Blocks	3	2	2	4	3	0	0	0	0	0	0	0	0	4	1	2	4	2	3	5	4	3	1	0	0	0

FEBRUARY

Line Blocks	1	1	1	2	4	4	5	4	2	2	2	3	2	3	3	2	3	3	3	3	2	3	4	3	6	8	6	
57 Wing Blocks	1	1	1	2	4	3	5	3	2	2	2	3	2	3	3	2	3	3	3	3	2	1	3	4	3	6	8	6

MARCH

Line Blocks	7	5	6	7	5	4	7	8	6	8	9	14	10	12	13	12	11	6	7	10	10	11	8	6	4	4	4
57 Wing Blocks	5	3½	4	5	3	3	5	6	6	7	7½	13	8½	10½	11½	10½	9½	5	6	9	10	9	8	5½	3½	3½	3

APRIL

Line Blocks	7	6	6	5	5	8	7	13	11	6	13	8	7	7	5	4	6	5	10	15	13	8	11	15	18
57 Wing Blocks	4	5	5	4	4	4	4	6	5	3	6	5	4	5	3	2	6	5	9	9	9	5	9	12	13