1. General Summary. On 20 Jaan 45 between 0806-0825A, 110 B-24 a/c of 112 a/c scheduled took off to bomb railway communications in LINZ, AUSTRIA. There were 77 effective and 33 non-effective sorties (10 of the non-effective sorties were due to weather).

Group assemblies, line rendezvous and Wing rendezvous were effected as ordered. Fighter escort, consisting of 30 P-38 a/c, joined formation at 4838N-1300E at 1145A; target cover consisting of 25 P-51 a/c was in contact with formation in the target area at 1250A and escort departed formation at 1440A over the ADRIATIC near ITALY.

66 a/c were over LINZ between 1251-1254A, and 62 a/c dropped 107.8 tons of 100 1b clustered GP bombs, fused .1N, .025T, on PT from 25,300-28,000'. 15 a/c dropped 22 tons on ROSENHEIN M/Y and other targets of opportunity. 22 a/c jettisoned 36.3 tons, end 16 a/c returned 2.43 tons of bombs to bases.

Results: ROSENHEIM: Photographs of the 460th Bombardment Group show their bombs to have fallen South and Southeast of the M/Y. One direct hit is seen on tracks leading to KUFSTEIN.

LINZ: Bombs away photographs indicate strikes of the 464th Bombardment Group probably fell Northeast of the Goods Depot and M/Y area of LINZ. Limited photo cover of the 465th Bombardment Group indicates strikes in the Wagon Repair Shops and the adjacent Station and M/Y. Photographs of the 485th Bombardment Group show craters confirming estimated location of the previous strikes and shows their strikes in the Station, M/Y, Goods Depot and residential areas of the city.

Flak at LINZ was IAH. IAH was encountered at CELJE, YUGOSLAVIA, and MAH was encountered at BRUNAU, AUSTRIA.

No e/a were encountered nor seen.

69 a/c were down et bases between 1530-1600A. 9 a/c were lost (ditching or crash-landing). 3 a/c are missing. 15 a/c landed at friendly fields.

Route was flown as briefed, except for deviations caused by weather and to proceed to Alternate and Targets of Opportunity.

Weather conditions enroute were the worst ever experienced by crews of this Wing. In addition to the report cited here, attention is invited to the detailed Narrative Mission reports of weather by individual Bombardment Groups below.

Starting on course toward Key Point, climb was rapidly made to get above expected weather ahead. Due to solid built-up cumulus clouds to 24,000' along course over ADRIATIC, the formation detoured to 20

miles left over ADRIATIC until sufficient altitude had been obtained to get above the cloud undercast. During this portion of the flight the Group Leader, to retain his correct bombing altitude in relation to the other Groups, endeavored to remain 1,000' higher than the other Groups of the Wing. No weather difficulties were encountered, and although somewhat scattered the elements of the Wing formation were in sight.

Just before the Key Point an altitude of 28,000' was reached, 1,500' above the other Groups. At the Key Point the weather was 10/10 clouds, tops at 25,000', with the temperature -51°C. At this point, the Group formation was considered fair, with no great weather difficulties as yet having been encountered.

Leveling off at 28,000', flight was made on course toward target. From Key Point to target, no actively adverse weather conditions were encountered. At the southern edge of the ALPS the undercast dissipated, with the remainder of the route clear. The extreme cold conditions, however, caused increasing difficulties. Pilots and co-pilots found windshields becoming heavily frosted inside. Very heavy vapor trails were formed. Because of greatly impaired visibility, pilots of individual a/c found it difficult to retain respective formation positions. Cold further complicated flying of close formation by stiffening controls, and in some cases by their freezing, necessitating constant effort to break them free. On many a/c the additional and grave difficulty of freezing oxygen equipment was encountered.

Rallying from the target, cloud undercast was again encountered on return route, tops from about 20,000' to 27,000'. These clouds, in themselves, offered, no difficulties for formation flying, except in necessitating retention of high altitude, in extreme cold, to the YUGOSLAV coast. Pilots of individual a/c found difficulties steadily increasing as more and more frost accumulated on windshields further obscuring vision.

From the YUGOSLAV coast to base, briefed course could not be flown, due to solid clouds to high altitudes. 20 miles to right of course, however, 4/10 clouds, tops from 12,000 to 20,000', were not considered detrimental to formation flying.

2. 460th Bomb Group. On 20 Jan 45 at 0806A, 28 scheduled a/c were dispatched to bomb a target in AUSTRIA.

Group assembly and rendezvous with the 485th and Wing were as scheduled. Fighter escort, 25 P-38s and 4 P-51s, first sighted at 4640N-1220E et 1206A, furnished penetration, target and withdrawal cover. They left the formation et 4520N-1250E at 1404A.

Two a/c returned early. One a/c jettisoned bomb load in the ADRIATIC, the other a/c returned bombs to base.

Weather conditions over ADRIATIC made it necessary to climb to altitude at Wing rendezvous. Attendant strain on crews and airplanes explains partially the difficulty under which the mission was flown. Temperatures of 50° below zero (C) further hampered operations. The airplanes were frosted in, so that pilots' vision was almost nil. Bombsights froze. Bomb-bay doors stuck. Oxygen regulators froze, causing loss of oxygen.

Five minutes before IP the Group Leader was forced to leave formation due to oxygen supply rapidly giving out, oxygen masks freezing, and a report from the engineer that there were bad gas leaks which had dangerously reduced fuel supply. The deputy leader was successfully notified to take over and continue on course. A blind broadcast to the formation made several times by the leader on VHF and command. The SOP signal of dives and zooms was given by the leader. #3, lead box, did not heed instructions because he was on interphone and could hot see signal due to frosted cockpit glass. He followed the leader out of formation, as did two others. All a/c had poor visibility due to badly frosted windows, and could hot rally on the deputy successfully. In many cases defrosters were not working and pilots were flying loose formation by scraping smell holes to sight through. The Group Leader could not see the rest of the formation.

Individual units went on to bomb BRAUNAU (4815-1302E) and ROSENHEIM M/Y. From 25,200’ 8 a/c dropped 12.25 tons of 100 lb GP clustered bombs, .1N - .025T fusing, on ROSENHEIM M/Y at 1328A, 286° heading. From 23,000’ 3 a/c dropped 3.55 tons on BRAUNAU M/Y at 1248A on a 290° heading. Due to malfunctions, 62 bombs were jettisoned in the ADRIATIC and 18 bombs jettisoned 30 miles south of ROSENHEIM. Two a/c bombed targets of opportunity: RIED (4813)-1329E) and TRAUNSTEIN (4750N-1240E). From 24,500’, 1.8 tons of bombs were dropped on RIED at 1250A, 210° heading. From 21,000’, 1.8 tons were dropped on TRAUNSTEIN at 1259A, 178° heading. Automatic pilot was used on bomb run at ROSENHEIM and BRAUNUA Nine a/c did not attack targets due to malfunctions and the split-up formation.

Disposition of bombs was as follows:

1 a/c jettisoned 36 bombs south of ROSENHEIM
1 a/c jettisoned 30 bombs (4743N- 1335E), 6 in ADRIATIC
1 a/c jettisoned 36 bombs over 30 minute period beginning at BERCHTESGADEN
1 a/c jettisoned 36 bombs (4630N-1325E)
2 a/c jettisoned 54 bombs SCHWARDING (IP), 18 returned
3 a/c jettisoned 108 bombs in ADRIATIC
4 a/c unknown disposition

No flak encountered at ROSENHEIM. Over BRAUNAU, MAH flak was experienced for approximately 4 minutes. Flak was observed at SALZBURG and LINZ.

Two unidentified SEF were seen at 1330A at 4730N-1205E.

Route on penetration flown as briefed. Return route was virtually reverse of route out.

Wing Leader kept in touch with weather a/c; was able to transmit bombing intentions clearly to groups in the Wing.

20 e/c returned to base with mean landing time of 1545A. One a/c ran out of gas as it approached the field and made a crashlanding ten miles south of base. No one was injured. Four a/c are at friendly fields: IESI, MADNA, BIFERNO and RAMITALLI. One a/c is missing; last soon at 1346A at 4644N - 1233E falling back under control and in no apparent trouble.

3. 464th Bomb Group. On 20 Jan 45 at 0810A, 24 a/c plus four spares took off to bomb communications installations at LINZ.

Group form-up and assembly were as prescribed, with no adverse effects from local weather.

Two group rendezvous made at 10,000', rather than at 8,000', in accordance with Wing instructions, due to known weather conditions ahead, and need for rapid climb necessary to surmount cloud forms. Weather offered no difficulties to this rendezvous, which was executed as prescribed.

To further expedite his Group's climb above expected weather conditions, the 464th Group Leader commenced to climb immediately following group rendezvous. Wing rendezvous made as prescribed, except that the 464th Bombardment Group was at 11,500' at 0936A (one minute late).

9 a/c returned early. One of these early returns crashed enroute. 2 early returns jettisoned 3.6 tons, 6 early returns brought 10.8 tons of bombs back to base.

19 a/c were over LINZ at 1251A. From an attack axis of 115° from 28,000', 31.95 tons of 100 lb GP clustered bombs, fused .1, .1 and .025T, were dropped. 2 sortie a/c jettisoned 2.2 tons, 1 sortie a/c returned .05 tons of bombs to base.

Recapitulation:

6 ER brought back	10,80 tons
2 ER jettisoned	3.60 tons
1 ER crashed	1.80 tons
18 a/c over target	31.95 tons
1 a/c brought back	.05 ton
2 a/c jettisoned	2.20 tons
Total	50.40 tons

Bombing was visual, with assistance on approach to target being rendered by PFF operators of both Group Leader and Second Attack Unit Leader. C-l automatic pilot equipment was used during the bomb

run by the Group Leader. Due to extremely erratic functioning of his C-1 equipment, the Second Attack Unit Leader used PDI for his bomb run.

IAH flak was encountered at LINZ. Duration of time in range expressed as 4/5 minutes. An unusually large percentage of white bursts was observed. IAH flak encountered by an ER a/c at CELJE (4615N-1505E). Off course, due to avoiding the UDINE area, considerable damage occurred to this a/c at this location.

Rendezvous with 30 P-38s made at 1145A at 4538N-1300E. Escort was last observed at 1410A at 4530N-1445E.

12 a/c landed at base from 1510-1550A. 1 a/c crashed near base. 2 a/c are missing.

Route was flown as briefed except for deviations due to heavy cloud formations.

One crew reported no flak observed at VOLKERMARNT (4639N-1438E) from course at 24,000'. This has been listed as a crew report flak location.

4. 465th Bomb Group. On 20 Jan 45 at 0825A, 27 a/c of 28 scheduled took off to bomb the LINZ Marshalling Yards.

Group assembled over ANDRIA at 0918A at 9,000' and the Wing rendezvous was accomplished over SPINAZZOLA at 0935A at 9,000'. An escort of P-38s joined the bombers at 1200A near UBERSEE and provide penetration, target and withdrawal cover and left formation at 1440A over the ADRIATIC.

There were four early returns. One a/c jettisoned bombs. Three a/c returned bombs to base.

No e/a were seen or encountered.

Flak at the target was IAH. The group leader said that a huge barrage of flak came up ahead of the formation just at a point where the formation was heading on their rally and the group leader made a gentle 10 degree turn to the right to avoid this barrage. It appeared from interrogation that the AA gunners were tracking the group in front of our group as they made their rally and then turned their attention to our group just as the rally was begun. The flak was in small barrages of 8 to 10 bursts. The formation had a tail wind of about 30 knots. One observer stated that the AA gunners anticipated the direction of the rally and allowed for it in aiming their fire.

21 a/c went over the target at 1252A at 26,000' and 18 a/c dropped 30.65 tons of 100 lb GP bombs (.1&.025T). One a/c did not drop because the bombs hung up and jettisoned 34 bombs in an open field near AMSTETTIN at 1316A and brought 2 bombs back to base. One a/c did

not drop because the bomb bay doors crept and jettisoned its bombs in the ADRIATIC at 4320N-1520E at 1410A. 1 a/c did not drop because its windshield was frosted and could not see the other a/c drop and it bombed the AMSTETTEN M/Y, a target of opportunity. 1 a/c lost 3 superchargers and could not keep up with the formation and bombed KOENIGSEE, a target of opportunity at 4736N-1300E at 1228A. 1 a/c had 32 bombs hang up and jettisoned 30 of them after leaving the target because of engine trouble and brought 2 bombs back to the base. 1 a/c lost a supercharger and in order to keep up with the formation jettisoned 12 bombs 20 mi. S of SALZBURG at 1229A and 24 bombs 10 miles S of SALZBURG at 1233A. This a/c did not go over the target with the formation because it had no bombs but turned off at the IP and joined another group that was enroute home. 1 a/c had 2 bombs hang up and jettisoned them in the ADRIATIC. 1 a/c had only 35X100lb bombs loaded.

Bombing was visually using C-l auto pilot. The lead bombardier said he picked up the target just after the IP and had no need for PFF assistance. The PFF was used to advantage in navigating to and from the target and most assistance was given by using the coastline as check points. The PFF operators reported that the equipment was not quite sensitive enough to pick up navigating points in the mountain areas but all cities were picked up with ease and both operators said they picked up the target and could have made a PFF run on it if necessary.

Recapitulation:

Tons dropped on Primary Target	30.65
Tons dropped on Target of Opportunity	3.60
Tons jettisoned	8.70
Tons returned to base	5.60
Total tons	48.55

Crews complained that the bitter cold, which was unavoidable because the formation had to go to altitude early because of the weather conditions caused much discomfort and inconvenience. Some crews said they couldn't charge their guns because they were frozen and one a/c reported its rudders were frozen fast for a while. Many pilots reported that their windshields were frozen especially after they turned away from the sun. This made formation flying more hazardous and one pilot said he could not see the a/c in front of him and had to depend on the vapor trails to judge his distance. The leader of the second attack unit said he could not see the box behind him and was bothered considerably by the vapor trails from the planes ahead of his box.

Many crew members could not state where the bombs fell because their windows were frosted and most agreed that if attacked by fighters it would have been very difficult to put up an effective defense. Some pilots blame the vapor trails for the loose wing formation and said at one point two boxes of a group ahead seemed to

be lost and appeared to be wandering back and forth across the course. The group leader said the vapor trails were a yellowish brown color and seemed to freeze and form a solid cone behind the planes. He said he has never before seen vapor trails like those encountered on this mission. One crew member said the vapor trails were oily black in color.

17 a/c landed at 1600A. 4 a/c landed at friendly fields and 2 a/c ditched.

The route was flown as briefed.

5. 485th Bomb Group. On 20 Jan 45 at 0824A 28 B-24 type a/c of 28 a/c scheduled took off to bomb the LINZ Communications Installations in AUSTRIA.

The Group formed over the home field and rendezvoused with the 460th between Altamura and Spinazzola at 0920A 10,000'.

Wing rendezvous was effected over Spinazzola at 0933A at 10,000'. The order of flight being: 460, 485, 465, and 464 Gps.

30 P-38 a/c joined the formation at 1145A at 4555N-1236E. At 1250A, 25 P-51 a/c were observed in the target area at a high altitude. P-38 a/c were last seen at 4818N-1243E.

There were 2 returns prior to reaching the target; 1 a/c jettisoned, 1 a/c returned bombs to base.

Enroute at approximately 30 miles off the Italian coast weather began to build up. This condition forced the formation to climb to altitude sooner than had been briefed; however, after crossing the Alps the formation broke through the weather and from there to the target favorable weather existed. The bomb run was begun on PFF but was switched to the visual run when the target area was identified. After turning at the IP, a box from some other Wing slid in front of the formation from the left causing the formation to turn to the right in order to avoid the slip stream. The formation was at the briefed altitude when this interference occurred. After the target had been turned on the second time, a box from another Group, slid in front of the formation again from the left and again forcing the formation to the right. This deviation forced the bomb run to be made from an axis of attack of 70° instead of 99° as briefed. Bombing was by PDI after the C-1 had malfunctioned soon after the run had been commenced.

26 a/c were over the target at 1254A (briefed 1253A). 26 a/c dropped 45.2 tons of 100 lb clustered bombs fused .1N&.025T from 25,300'. Rack malfunctions caused 1 of these a/c to jettison 1.4 tons of bombs 30 miles South of the target, and 2 of these a/c to return .2 tons of bombs to base.

Recapitulation of bombs:

2 (early returns) jettisoned	3.6 tons
26 sortie a/c dropped on PT	45.2 tons
2 sortie a/c jettisoned	1.4 tons
2 sortie a/c returned to base	.2 tons
28 a/c Total	50.4 tons

There were no e/a seen or encountered.

IAH flak was encountered at the target.

PFF equipment was used only for navigational aids. The sets worked satisfactorily with each operator furnishing approximately 40 fixes to the navigators.

20 a/c landed without incident, mean landing time 1554A. A/c #770 landed at ANCONA for gas and returned to base at 1741A. 2 a/c are at Friendly Fields: #495 crash-landed at MADNA, #067 landed at VIS for gas. 3 a/c ditched.

Route was flown as briefed.

6. Bombing Analysis.

a. 460th Bomb Group: This group led the Wing formation on the attack. Bombardier CRAIN was the lead bombardier until just prior to reaching the IP. At this time it was decided to leave the formation and return to base due to a bad oxygen leak and a shortage of gas. The town of TRAUNSTEIN was bombed by this aircraft. A formation of six a/c led by Bombardier MOFFIE attempted to bomb the ROSENHEIN M/Y. The target was bombed using the reciprocal of the briefed axis. The target was identified in time to make a short run.

b. 485th Bomb Group: This group led by Bombardier CHERRY flew second in the Wing formation. The target area was identified in plenty of time to insure a good bombing run. Timing at the IP was good with no trouble from the weather. A great deal of interference was encountered from a group of the 304th Wing and a box of the 464th Group. These units caused a great deal of prop wash and forced the group to turn off the run. Due to the interference on the run synchronization was quite difficult for the leaders of both attack units.

c. 465th Bomb Group: This group flew third in the Wing formation with Bombardier GAINES in the lead position. The West M/Y at LINZ was bombed visually by attack units. The lead bombardier was not able to see the target area from the IP due to weather and a PFF run was started. Interference from the preceding group necessitated a sharp turn to the right. The target area was identified with approximately 3 minutes left to synchronize. The lead a/c of the second attack unit was hit by flak before bombs away. They lost two engines and salvoed the bombs. The deputy leader held his bombs and

the box dropped on him, realizing that the leader had been hit. Both the lead and deputy lead aircraft failed to return. Four malfunctions were reported. Three aircraft selvoed some part of the load due to clusters hanging up. One aircraft salvoed due to creepage of the bomb-bay doors.

d. 464th Bomb Group: Lead Bombardier STINSON with the cooperation of the navigator and PFF operator turned at the IP on an axis of 105° and the bombing approach was started. The IP was visual but the target appeared to be overcast so the bomb run was started using the PFF equipment. The bombardier was able to identify the target at 25 miles and a visual approach was made. The course and rate knobs were very stiff with the temperature at -54° C. The second attack unit bombardier, SPENCER, experienced auto-pilot trouble and a PDI approach was made. Eight malfunctions were reported. One was due to flak damage, two were due to frozen bomb-bay doors, and five to frozen releases and B-10 shackles. No evasive action was used.

e. Summary: The results of this mission cannot be completely analyzed due to the poor photo coverage obtained. Many cameras were lost and many were so covered with frost that the pictures did not turn out. The second and third groups of the formation experienced much interference on the bomb run. The extreme cold had major effect on the results of the mission in that one group alone salvoed 190 bombs due to frozen releases.

7. Navigation Analysis. The climb to bombing altitude was started immediately after rendezvous. The course to the keypoint was 25 miles to the west of that briefed, due to bad weather conditions. The keypoint, COAST (4538N-1300E), was reached two minutes early at 1140A and at an altitude ranging from 25,000 feet. for the 460th to 28,000 feet for the 464th. This excess altitude was enforced by unfavorable weather conditions. Extremely low temperatures and frosting windshields made formation flying most difficult. The route was flown as briefed from the keypoint, going to PRATA to UBERSEE and to REXSCHACH. About three minutes before the initial point was reached the 460th Group Leader was forced to turn back. Most of the aircraft in the group, due to poor visibility, were unable to see his signals relinquishing the lead and followed him out of formation. This caused the dispersal of the group end alternate targets were bombed individually and by boxes. The aircraft generally returned to base as briefed. The other groups continued to the primary target, rallied to FREISTADT es briefed, and returned by the briefed route back until the vicinity of TREBINJE was reached. Here course was set for ZARA and from ZARA to base.

Weather was responsible for much of the difficulties on this mission, although it did not hinder navigation. The Wing was above the overcast at 24,000 feet and continued above for the rest of the mission. On the north side of the ALPS, the undercast disappeared but was encountered again on the route back. This undercast delayed letdown until well over the ADRIATIC.

The 485th turned on the initial point, SCHARDING, by PFF, but the other two groups were able to see it. Visual bomb runs were made by each group. The 485th encountered considerable prop wash during their bomb run, caused by s group from the 304th Wing and a box of the 464th Group, both of which were at the same level and in front.

The navigation on this mission was entirely satisfactory, despite the considerable effect of most unfavorable weather.

8. Pathfinder Navigation Analysis.

a. 460th Bomb Group: Lead PFF Operator, Capt. DROW, furnished the DR navigator with fixes enroute to the target at ten minute intervals. These fixes were of special value over the ADRIATIC and upon hitting the keypoint as a complete undercast prevented visual navigation. The PFF operator furnished sufficient fixes to avoid all flak areas. The PFF equipment in the second attack unit leader's plane went out over the ALPS and the operator was unable to use equipment during the remainder of the mission. The deputy leader of the second attack unit was forced to land at IESI and as yet no reports are available. Coordination among the lead crews was very good.

b. 485th Bomb Group: PFF was used extensively as an aid to navigation because of cloud coverage over most of the route. All lead navigators were supplied with fixes approximately every ten to fifteen minutes. PFF was also instrumental in avoiding known flak areas. The turn on the bomb run was made by the nose navigator coordinating with the Mickey Operator. The bomb run was started on PFF and two course corrections were made which appeared to be sufficient to kill the drift. Shortly after the last correction it was necessary to make a 45 degree right turn in order to avoid prop wash from another group that cut in front of the formation. The PFF operator put the formation back on course at which time the bombardier took over and bombed visually. The coordination between all PFF teams was excellent. No malfunctions were reported on any of the PFF sets and exceptionally good results were reported from the new 15A. A maximum range of eighty miles on coastlines was recorded.

c. 465th Bomb Group: Lt. HARTLEE, lead Pathfinder Operator, assisted the navigator by furnishing fixes about every ten minutes. It was necessary for the Mickey Operator to assume the burden of the navigation over the NORTH ADRIATIC as visual navigation was impossible The Mickey Operator helped turn the formation over the IP and put the formation on course to the target, and gave the Bombardier two range readings, but at this time the bombardier was able to identify the target and dropped the bombs visually. Coordination between the lead teams was good. No equipment malfunctions were reported.

d. 464th Bomb Group: Pathfinder was used as an aid to navigation enroute to the target as cloud coverage prevented use of pilotage. The Mickey Operator, Lt. TREADWELL, gave the DR navigator numerous fixes over the ADRIATIC and over the ALPS. The primary

target, LINZ, was identified at forty-five miles by the Mickey Operator who turned the formation over the IP and started the bomb run. The bombardier identified the target at twenty-five miles and completed the run using visual methods. PFF was used to avoid flak areas and as an aid to navigation on the return route. No equipment malfunctions were reported in the lead plane. Coordination was good.