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PROJECT CHECO REPORT

Contemporary Historical Evaluation of Combat Operations

AIR WAR IN THE DMZ

JANUARY-AUGUST 1967

20 MAY 1968

HQ PACAF

Directorate, Tactical Evaluation
CHECO Division

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DEPARTMENT OF THE AIR FORCE
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REPLY TO ATTN OF: DTEC

20 May 1968

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Edward C. Burtenshaw

EDWARD C. BURTENSHAW, Colonel, USAF
Chief, CHECO Division
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FOREWORD

While it is recognized that decisions and actions far from the Demilitarized Zone (DMZ) directly or indirectly affect that area, this study has been confined to the DMZ, to those regions contiguous to the DMZ, and to the major lines of communication (LOC) furnishing infiltration routes into South Vietnam. Ground actions have been detailed to provide the background for air operations.

Principal strike objectives in and around the DMZ have been the LOCs through NVN and Laos, which carry heavy supplies to the NVA/VC forces. The mission objectives were intended to deprive the Communist forces in SVN of the basic materials of war essential to any sustained program of conventional warfare. In addition to interrupting the delivery of war materials, U.S. planners had hoped that disruptive strikes would slow infiltration, as the enemy observed that logistic deficiencies would allow only the maintenance of present or reduced force levels in SVN. 1/

This study continues the CHECO report, "Air Operations in the DMZ, 1966", published on 13 February 1967; it covers the period of January through December 1966.

Warning: Some of the footnotes are don't match the narrative parts of chap V footnotes are also wrong — very unreliable report

CHAPTER I

INTRODUCTION

To interdict or reduce enemy efforts to infiltrate South Vietnam (SVN) via Laos and the Demilitarized Zone, air operations in the TIGER HOUND (STEEL TIGER) and TALLY HO areas were begun on 6 December 1965 and 20 July 1966, respectively.[1/] These areas (Fig. 1) covered all land access routes into South Vietnam around or through the DMZ. To the seaward, U.S. Naval Operation SEA DRAGON denied the enemy free use of water routes. The effects of these operations to December 1966 were covered in a previous CHECO report ("Air Operations in the DMZ Area; 1966") in which CINCPAC summarized:[2/]

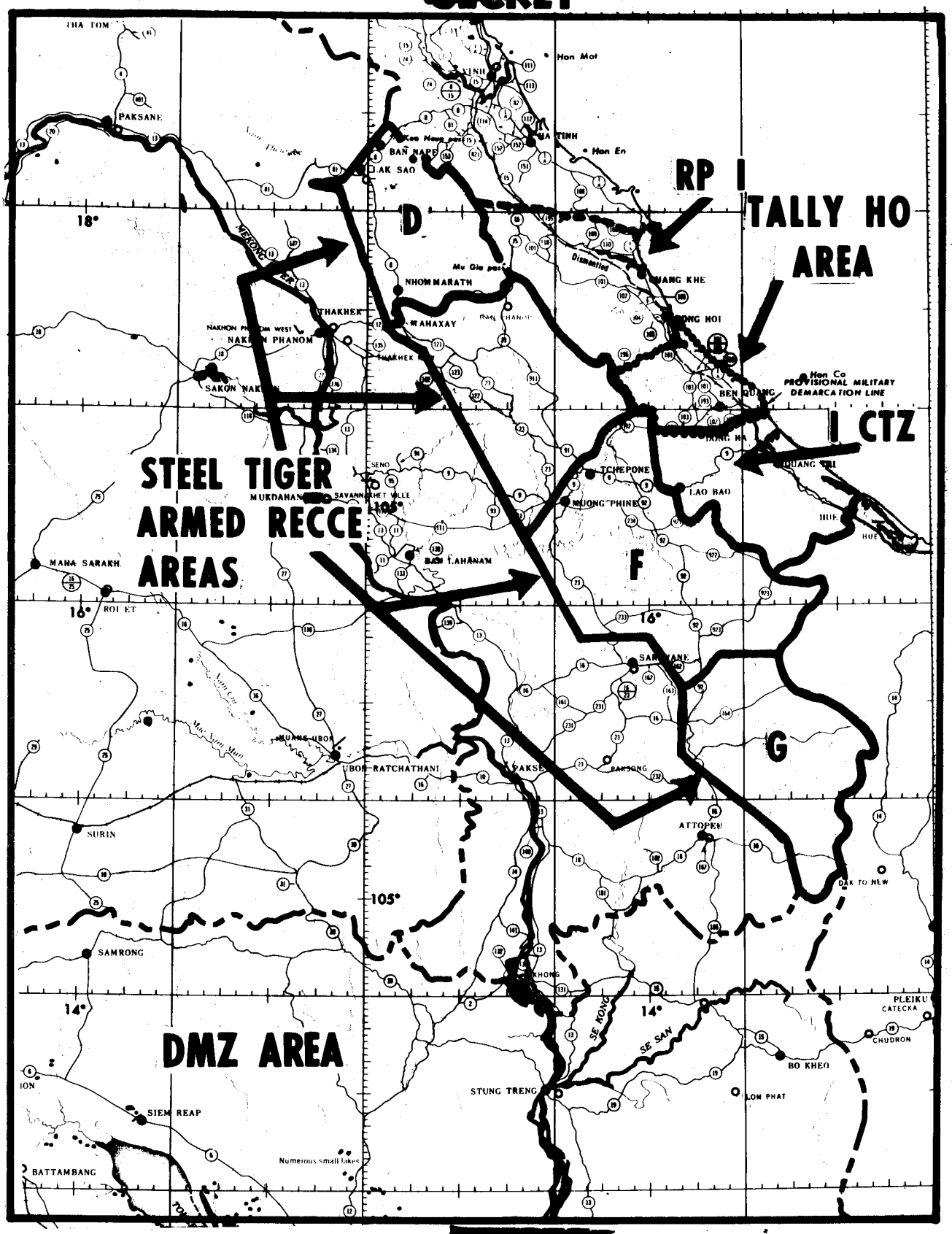
> *"These operations...have had a significant impact upon the military capabilities of the North Vietnamese Army and the VC. Indeed, the amount of disruption and enemy material destroyed have been of such magnitude as to represent the probable balance of power which to date has denied the enemy a capability for seizing significant portions of I and II Corps....*
>
> *"This (the DMZ) is an area where the enemy is adept at moving and concealing large forces, and from which he can attack with little warning. The military security of our numerically smaller forces in the area are dependent in great measure on the ability of our airpower to deny the enemy freedom to move and concentrate in positions from which he can attack with great advantage...."*

During the period covered by this study, several significant developments characterized operations in the TIGER HOUND and TALLY HO areas. After massive buildup within the TALLY HO area, the North Vietnamese Army (NVA) launched several multi-regimental offensive penetrations into South Vietnam across the DMZ. The Free World Military Assistance Forces (FWMAF) reaction

to this threat was a rapid and large scale buildup of U.S. Marine forces directly south of the DMZ. This, in turn, precipitated some of the bitterest fighting of the war to date.

Accompanying the enemy buildup in the TALLY HO, DMZ, and Northern Quang Tri Province areas, the period witnessed the first confirmed enemy employment of heavy artillery against targets within South Vietnam. Massive air efforts were launched to counter this almost daily pounding of friendly positions directly south of the DMZ. Despite neutralization effort by artillery, naval gunfire, and tactical airstrikes (including ARC LIGHT), the enemy continued to hit Con Thien, Gio Linh, and Dong Ha with effective, heavy artillery fire. As a result of this continuing enemy action, the Allies' ability to establish and maintain a physical barrier to enemy infiltration was questioned.

As an example of enemy strength, in the TALLY HO area alone, there were at least two North Vietnamese army divisions--the 325th and 341st, with approximate strengths of 10,400 each. The enemy buildup in the TALLY HO area brought with it a greatly increased NVN antiaircraft capability, more sophisticated AAA defenses, and a significant surface-to-air missile (SAM) capability. These improvements in enemy defenses resulted in a redesignation of the forward air controllers (FAC), visual reconnaissance (VR) lines within TALLY HO area which, by late summer, virtually excluded conventional FAC aircraft from the areas of significant enemy activity north of the Ben Hai River. In June, a new type of FAC program was initiated, with F-100 aircraft to mitigate the lack of effective coverage in areas nonpermissive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CATECKA
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16°
14°
105°

to light traffic. 3/

Employed in large scale raids to "carpet" bomb areas of intense enemy activity, ARC LIGHT (B-52 strikes) also took on added significance during this period. As the ARC LIGHT program increased, the enemy launched a determined effort to maintain his SAM capability in TALLY HO, despite aggressive efforts by friendly forces to destroy all such sites. Although several other types of aircraft had been hit by SAMs in the area, the B-52s remained unscathed. 4/

The TIGER HOUND area was subjected to continuous heavy infiltration by the enemy, who sought to develop new lines of communication and improve old ones. In countering these efforts, the air interdiction program continued with increased emphasis on SLAM and SHOCK operations, with a view toward long-term interdiction of certain key areas of the enemy infiltration and supply network. In 1967, the TALLY HO area was extended northward to a latitude just north of Dong Hoi, at the expense of narrowing Route Package I. The STEEL TIGER area of operations was divided into "D" and "E" designators. TIGER HOUND was divided in similar fashion by designators "F" and "G". 5/

There were three identifiable modifications setting 1967 apart from the preceding years. The constraints imposed on out-country employment of air were reduced measurably below those existing in 1965 and this pattern continued in 1966. The intensity of effort was increased several-fold beyond previous years--not only because of lessened political constraints, but also because of increased numbers of air assets, modernization of older aircraft,

introduction of new weapons and aircraft, and lessons learned from the experience of previous years. The third identifiable characteristic was the shifting of concentrated efforts northward in North Vietnam into the Route Package V and VI areas, while still maintaining high levels of effort in SVN and Laos. 6/

The minor differences existing between the 1966 and 1967 plans were the deletion of the prior restriction on VNAF armed reconnaissance (previously limited to an area between the DMZ and 19° North latitude), and the deletion of special naval operations in coastal waters from 17° to 19° North. 7/

In summary, the necessity for U.S. air operations in the DMZ area was succinctly expressed by CINCPAC in July 1966: 8/

> *"...Heavy build up in I Corps and expressed determination to continue large scale support to the VC requires NVA to seek multiple shorter routes of infiltration. This can only be through the DMZ. It appears that the NVN has abandoned all pretense of respect for neutrality of the DMZ and is now embarked upon additional infiltration and supply means...."*

CHAPTER II

NORTH OF THE DMZ--TALLY HO and ROUTE PACKAGE I

As 1966 came to a close, the enemy stepped up harassment in Quang Tri Province and built up supplies in the central DMZ in preparation for a possible large scale attack in the northern part of the province. Elsewhere in the area, the enemy continued to harass LOCs and small ARVN posts. Four areas accounted for the majority of groundfire reactions reported. Quang Khe and the junction of Routes 1A and 105, in the vicinity of Dong Hoi, produced several instances of barrage fire, reported most frequently as light, inaccurate 37-57-mm AAA. There were no reports of 85-mm activity. 1/

During the first week of 1967, groundfire dropped to the lowest level recorded since mid-November 1966. Of particular interest was the high percentage of COMBAT SKYSPOT missions flown during the period of 29 December 1966 - 5 January 1967; 121 of 226 missions flown, or 54 percent. Night missions continued against ferry complexes and interdiction points on Routes 1A and 101, as part of an effort to harass truck traffic moving south toward the DMZ. 2/

Except for slightly improved weather conditions on 27, 28, and 29 January, the month was characterized by adverse weather, necessitating control by COMBAT SKYSPOT of a large percentage of sorties. There was a total of 338 targets attacked in the TALLY HO area.

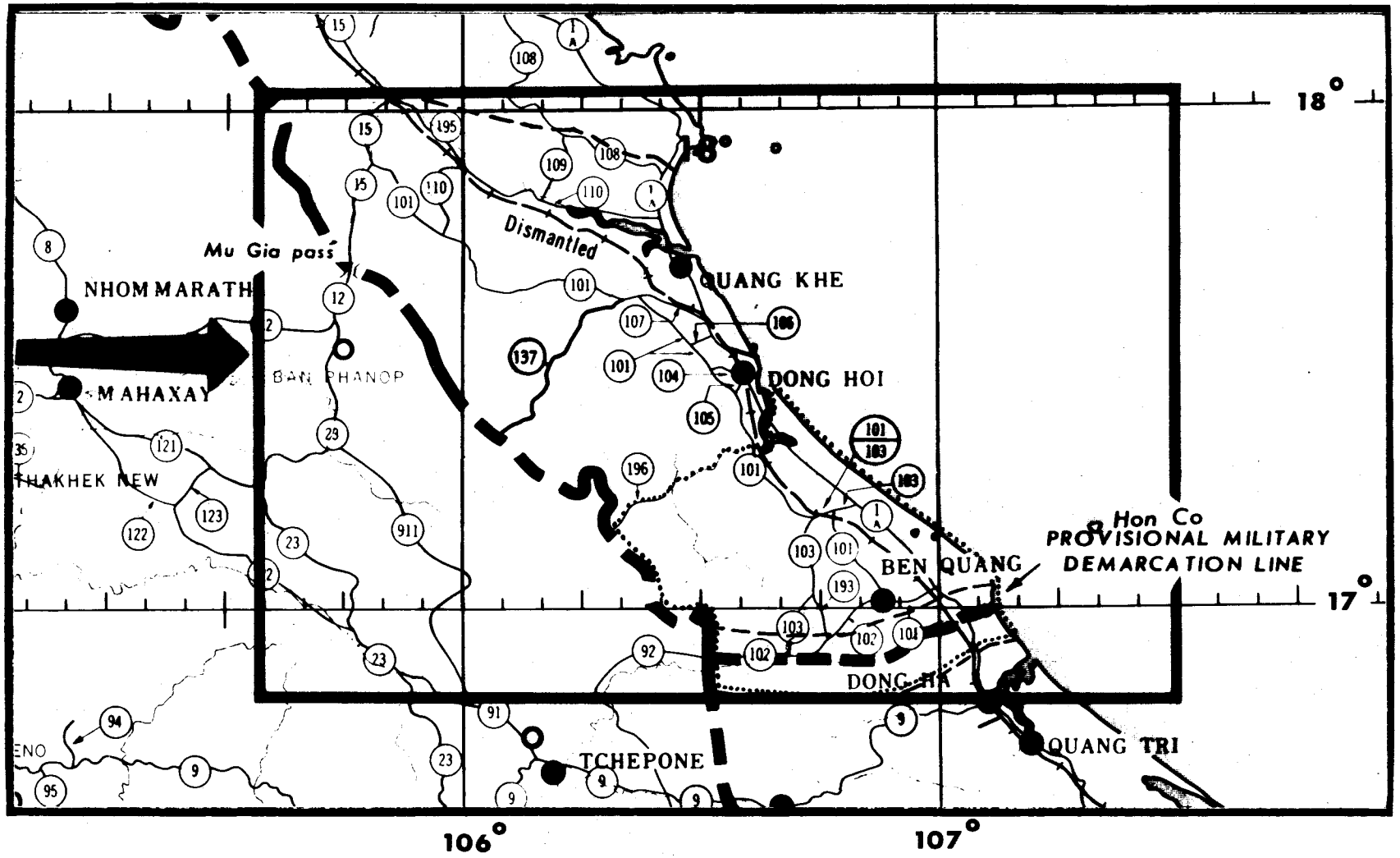
An interview with a pilot-intelligence officer of the 366th Tactical Fighter Wing (TFW) gave an interesting viewpoint regarding the problem of

weather: 3/

> *"It was a frustrating period for us because we were interested in BDA and would like to see the results we get. We have to go COMBAT SKYSPOT for months at a time - it was frustrating. The ceilings got too low, 3-4500 feet; just too low to do any good work. If we tried to bust the ceiling we sure put ourselves on the line as far as AAA was concerned.*
>
> *"I would like to see some sort of a solution. SKYSPOT is fairly accurate, but I would like to see some method they could come up with, like SKYSPOTTING CBUs from a relatively low altitude, say 4,500 feet. We know the areas of suspect storage sites, truck parks, etc. If we could get a good area weapon in there on those targets during bad weather, I think we could do some good.*
>
> *"During bad weather, we do get some good work in over in Laos, but we still feel that in TALLY HO is one of the key areas. We think of TALLY HO as sort of our own personal property and most of the pilots know it like the backs of their hands."*

The 618 watercraft sighted during the 9-29 January period represented a major decrease from the 1,270 reported from 19 December 1966 to 8 January 1967. While the drop occurred in the coastal SEA DRAGON area, inland waterways continued to be highly active, increasing to 575 during this cycle. Activity again centered around Quang Khe and Dong Hoi, as evidenced by sightings of 247 and 245 watercraft, respectively. Of the 618 reported from all sources, strike pilots attacked 142 and reported 56 damaged or destroyed. 4/

From 27 January through 2 February, sorties increased as the strikes planned for the north were diverted into the TALLY HO area. Ground fire reactions indicated possible troop movements in the DMZ, and first reports of a suspect SAM site, just north of the TALLY HO area, were received on



TALLY HO, RP I AND PRINCIPAL INFILTRATION ROUTES FIG. 2

27 January. The enemy continued to resupply and reinforce in the DMZ, with reconnaissance aircraft observing more than 780 troops moving south in the central DMZ during a ten-day period. These sightings, plus increased enemy reconnaissance and harassment, indicated a possibility of enemy attack against the DMZ outposts before Tet.

USAF, USN, and USMC forces flew a total of 1,456 sorties, including 1,307 strikes, although weather precluded BDA in many instances. Those results which could be assessed included eight structures and nine vehicles destroyed, 29 secondary explosions, 18 AAA/AW sites destroyed, and other facilities damaged. 5/

A combination of the "short" month of February, continued poor weather, and the Tet standdown, resulted in a decrease in overall activities for the period. One of the major enemy activities was his well-planned effort to squeeze the maximum advantage from the Tet Truce. It became clearly evident that the NVN were planning for, and would positively exploit, any pause in the pressure on their LOCs. Standdowns extended the time needed to deter NVN's ability to wage war, and caused the Free World Military Assistance Forces (FWMAF), to expend increased efforts to destroy accumulated enemy resources.

There was a dramatic increase in the southward movement of supplies and personnel along the coastal and inland waterways, and along the major overland infiltration routes during the 8-12 February Tet standdown, with truck activity paralleling the increase noted in watercraft activity. Of special interest

were the "points of departure and destinations of waterborne traffic on coastal waterways and tributaries, particularly those in and adjacent to RP I."[6/] Thus, at the same time Tet Truce instructions were being promulgated, post Tet plans were being made. The impetus behind this planning was the "feverish activity on Route Package I and TALLY HO roads and waterways during the truce period (which) dictates the need for heavy weight of effort in these areas as soon as the truce ends." Included in the objectives were the destruction of vehicles and watercraft still transiting LOCs, rolling stock in truck concentration points, and strikes against selected concentration points (e.g. storage areas, offload points and transshipment areas).[7/]

Visual reconnaissance (VR) and side-looking aerial radar (SLAR) coverage during the Tet Truce period revealed 12 probable truck parks, transshipment points, and storage sites in the TALLY HO area. It was likely that a considerable quantity of materials, moved south via the Kien Giang River during the standdown, had been cached at these locations. Although the areas were being developed as fixed targets, their transitory nature demanded immediate exploitation. Seventh Air Force conducted daily strikes against these targets, under COMBAT SKYSPOT control, when operations in North Vietnam were resumed.[8/]

Results of airstrikes flown during the period 9-15 February (which included the standdown period) were not reported, although there were 672 vehicles sighted, plus 380 SLAR indications of vehicles for a total of 1,052 in the TALLY HO area. In addition, 502 uniformed troops and 457 other personnel were seen. One FAC received small arms fire on the first day of

the period and another FAC received heavy AW fire on the final day of the period, near the intersection of Routes 101 and 102. 9/

In view of the successful NVN logistics buildup during the truce, grave concern over the possible emplacement of SAMs in the DMZ was expressed, since they reflected a serious threat to the employment of ARC LIGHT forces in that area. Noting that there had been two, and possibly three, SAM firing units in the Vinh area, CINCPACAF pointed out the ease with which these could be transported to the DMZ during the four-day truce period. This enemy move would be for the express purpose of "preparation for B-52 DMZ bombings after Tet". Thus, because of the high risk to B-52 DMZ strikes, it was necessary to exercise the utmost caution in scheduling strikes into this area. The alternatives became: (1) caution in scheduling ARC LIGHT forces; (2) utilization of BIG LOOK aircraft in surveillance to fix SAM radar locations; (3) employment of ECM from a point 35 nautical miles offshore inbound and 25 nautical miles outbound; and (4) maintenance of a Quick Reaction posture for photo reconnaissance aircraft in the event of ELINT detection of possible sites. 10/

The weather in Route Package I was relatively good on 16-17 February. Strikes resulted in 16 interdictions, including two bridges reported destroyed on 16 February. On 17 February, four F-4Cs struck 20 to 25 boats near the Ron Ferry Complex, and reported destruction of four. 11/

During the period of 17-23 February, pilots reported 18 instances of light-to-moderate 37-57-mm AAA along Route 1A from Ron in the north, to the

DMZ, in the south. Ten additional firings were reported along Route 101, south of Dong Hoi. Seven reports listed sightings of 37-57-mm AAA (three involving heavy, accurate tracking) along Route 102, just north of the DMZ. Generally, routes and the ground situation remained unchanged, with the enemy continuing infiltration through the DMZ, but avoiding contact.

From 20 February through 19 March, USAF and Marine aircraft attacked 427 targets in Route Package I. The bulk of this effort was concentrated in the TALLY HO area, to prevent further buildup in the adjacent I Corps. Bad weather continued to seriously limit the number of visual strikes. Nevertheless, the weight of effort was sustained under COMBAT SKYSPOT control. Measuring the effects of these MSQ-77 strikes was hampered by lack of virgin targets and BDA coverage.[12/]

Analysis, at this time, of traffic sightings in other areas of Route Package I revealed the following logistic flow pattern to the DMZ: Railroad 7 was used as far south as the destroyed Phuong Phong Trang Railroad Bridge, where supplies were shuttled across the Rao Nay River by cable car and then moved by truck southward down Route 110 to Quang Khe. From this point to the Dong Hoi area, Route 101 was the main road in use. Between Dong Hoi and the DMZ, Routes 1A and 103 reflected 113 sightings. Of the 236 watercraft sighted on coastal waterways, 123 were noted between Quang Khe and Dong Hoi; 99 between Dong Hoi and the DMZ. On inland waterways, 106 sightings were made, 65 of which were on the rivers below Dong Hoi.[13/]

Route 15 was attacked under COMBAT SKYSPOT control every day and night. On this route, 55 trucks were either destroyed or damaged. Fourteen secondary

explosions and ten secondary fires were reported. Also during the period, the route was unserviceable at the Nuy Cay seeding segment for at least four separate days and nights. Additionally, ten truck parks, the La Trang Staging/POL area, and the Thang Xa Storage Tunnel were heavily damaged.[14/]

The majority of strikes in Route Package I during the period 9-15 March were against trucks along Route 1A, just north of the TALLY HO area and on Route 15, north of Mu Gia Pass. In the Dong Hoi area, four F-105s from Takhli attacked a total of 21 trucks. Four were stopped, with no fires or secondaries reported. No visible results were reported on the remaining 17, which were probably among the trucks struck later in the TALLY HO area.

In the last week of March, increased emphasis was placed on use of Route 137 as an entry to the Ho Chi Minh Trail, as evidenced by enemy truck activity along that route and Laotian Route 912, which it joined. On the night of 24 March, a T-28 used CBUs and napalm to destroy four trucks heading south on Route 137. During the day of 25 March, F-105s strafed three trucks moving north on Route 137 and reported one damaged and in flames. Again, on the night of 26 March, a T-28 struck and destroyed two trucks on Route 137, near its junction with Route 912.

In summary, distribution of the truck flow during March followed the trends previously noted, with one exception. Route 137 showed a definite increase as totals rose from seven sighted during the previous period, to 86 for the current reporting period. Route 15 remained the heaviest traveled with 143 sightings.

Watercraft more than doubled, with 806 sighted and 185 claimed as damaged or destroyed. Almost half of the total sightings were in Quang Khe area and on adjacent waterway W-5A/B.

The banner day was 26 March, when 283 watercraft were reported in this area. Thirty-eight aircraft struck these craft during the day and reported destroying 39 and damaging 59. 15/

Summarizing enemy activity for March, it appeared that, in addition to increased activity on Route 15, there had been renewed heavy movement down the coastal strip to reinforce the DMZ area. The traffic flow also shifted to a night movement pattern indicating the enemy's reaction to increased capabilities of the Allies, as the weather improved. 16/

On 21 April, strikes were resumed in the DMZ--the first since 5 February. Six strikes, totaling 54 sorties, were executed through 26 April. On 27 April, a possible SA-2 site was discovered approximately 11 nautical miles north of 1705N 10652E, resulting in the diversion of a DMZ strike scheduled for that day. Restrictions were invoked prohibiting striking targets within 20 nautical miles (radius) of the suspected site, pending its destruction or neutralization. 17/ This restriction was finally to be lifted on 2 May, with a DMZ strike following on 4 May.

The first indication of an active SAM location near the DMZ, since early March, was received on 25 April 1967, when an EB-66C, engaged in flying support for B-52 aircraft, intercepted a Spoon Rest radar, which was apparently operating in the area north of the DMZ. On 26 April, another EB-66C

flying B-52 support intercepted Fansong S-band tracking radar signals from the same general vicinity.

These Fansong signals could not be correlated to friendly shipborne radars which have characteristics similar to that of the SA-2 radar. The 3d Air Division reported that, on 26 April, while they were 60 nautical miles south of the DMZ and heading in a southerly direction, B-52 crews had intercepted Fansong signals at the same time and at the same frequency as those reported by the EB-66C. An APR-25 warning system on the B-52 aircraft also indicated that the source was probably from the DMZ area. After eliminating all possibility of friendly radar misidentification, and assuming that the Spoon Rest was acting as an acquisition radar in close proximity to the Fansong tracking radar, an active SAM location was estimated in the vicinity of 1706N 10649E on 27 April. 18/

Initial photo reconnaissance, early on 28 April, did not reveal any SAM-associated equipment in the immediate vicinity of the ELINT estimated position. Consequently, systematic photo reconnaissance was initiated over a large area.

On 28 April, an EB-66C aircrew obtained seven bearings on a Fansong signal from the DMZ area during another B-52 support mission. The Spoon Rest acquisition radar was again intercepted during the Fansong activity. The bearing from both signals, while not giving a precise point of intercept, indicated the same general location estimated from the 25 and 26 April ELINT. Both Fansong beams were intercepted on this occasion. The upper

frequency was jammed, while being taken on the lower beam. An F-105F aircraft, armed with SHRIKE missiles, also intercepted a Fansong signal, but was unable to do anything about it. Six of the B-52 aircraft also received Fansong signals during the same time frame.

Photo read out, performed early on 29 April, of photography flown the afternoon of 28 April, confirmed the location of an SA-2 site at 170527N 1065210E. This site contained one Fansong radar, four launcher positions and one truck crane. Being informed at 29/1000H of this confirmed threat, Tactical Air Control Center (TACC) immediately alerted the Airborne Battlefield Command and Control Center (ABCCC) to divert airborne FACs to the area. At 1039H, the first flight of fighters was employed in the area identified by a TALLY HO FAC as having camouflaged objects or structures of an undetermined nature. Other flights were systematically diverted to the area every 15-20 minutes.

Possessing annotated photos of the site and utilizing inflight refueling, two RF-4s subsequently alternated over the target area, coordinating with the ABCCC and directing the strike aircraft against the proper area. From 29/1805H until approximately 29/2230H, 230 rounds of 175-mm artillery were fired on the target area. Airstrikes were continued by radar-directed bombing until 30/0145H. A total of 80 strike sorties were employed in the area between 29/1039H and 30/0145H.

Commencing at 30/0200H, naval gunfire was scheduled into the area. The USS Boston fired from 30/0300H until 30/0345H, expending 200 rounds of

eight-inch shells. Commencing at 30/0700H, O-1 FACs were again airborne in the area to observe results and direct airstrikes against the site. Two RF-4s, with FAC and mission coordinators in the rear seats, were again scheduled into the area to direct airstrikes and obtain confirming Photo BDA. A total of 54 strike sorties were expended against the site between 30/0800H and approximately 30/1430H, at the end of which time, the airborne mission coordinator indicated that the target area appeared completely obliterated and recommended that strikes be suspended. During this two-day period, a total of 134 strikes and 17 reconnaissance sorties were flown against the area. 20/

Results of BDA flown on 30 April (photo) showed two destroyed launchers, three destroyed trucks, one destroyed trailer, and possibly one destroyed truck. Subsequent photography on 30 April showed two destroyed missiles, a damaged Fansong radar van, and an additional truck destroyed. Photography flown on 1 May showed one additional destroyed transporter.

Missile-associated equipment was observed, probably being removed from the vicinity of the site, after the strikes. Two missiles and transporters with prime movers were photographed approximately two and one-half nautical miles northwest of the site, one missile and transporter, with a prime mover, was photographed one nautical mile southwest of the site, and one missile and transporter was photographed one and one-half nautical miles southeast of the site. This equipment was not subsequently located by strike aircraft; however, the damage and destruction of key components made it highly unlikely that any surviving equipment could be put to use in the

immediate future. 21/

Between 1 and 9 May, ELINT single line bearings indicated possible Fansong activity in the vicinity of Dong Hoi and northwest of Quang Khe Ferry, but photo reconnaissance failed to indicate an active site. On 2 May, three probable missile transporters and trucks were noted 15 nm northwest of Dong Hoi. On 5 May, one transporter, three missiles, and one tracked vehicle were destroyed near the site struck on 29-30 April.

On the evening of 10 May, ELINT intercepts again indicated an operational SAM site in Route Package I. An IRON HAND aircraft launched a SHRIKE missile at a site in the vicinity of 1712N 10645E (and was fired upon by the site) but without evidence of any damage. A Marine A-4E, probably downed by a SAM the same evening, about 11 nm northwest of Dong Hoi in that part of the sustainer section of a GUIDELINE missile, was found on 12 May, in the vicinity.

Photo reconnaissance and the results of strikes on lower Route Package I showed SAM equipment apparently dispersed. Intense photo and ELINT reconnaissance and an aggressive strike effort between 10 and 16 May resulted in the following: 10 trucks destroyed; 5 trucks damaged; 1 radar van destroyed; 5 tracked vehicles destroyed--one damaged; 4 missile transporters destroyed--two damaged; two prime movers destroyed--three damaged; and one launcher destroyed--two damaged. A significant windfall during the period was the discovery of probable 130-mm field artillery pieces in TALLY HO. One artillery piece was destroyed, nine damaged.

The amount of SAM-associated equipment noted in TALLY HO since the first ELINT indication on 26 April, evidenced a determined effort by the enemy to maintain a SAM threat in the area. It appeared that the components were split up and moving to avoid detection; however, there remained the possibility that a firing unit, with two to four launchers, could be assembled in the TALLY HO area as terrain, camouflage, and air interdiction efforts permitted. 22/

During May, U.S. Marines just south of the DMZ recovered substantial portions of two separate SA-2 missiles. The missile parts were first shipped to the Combined Materiel Exploitation Center (CMEC), where initial exploitation was accomplished by CMEC personnel and FTD representatives from 7AF Intelligence. They were then shipped to the Missile Intelligence Division at Redstone Arsenal, where they were to be subjected to a detailed examination and analysis by experts throughout the Intelligence community. The results of the exploitation should provide the United States with precise data for use in hostile weapons system simulations, so necessary in the effectiveness testing of USAF weapons systems.

The first confirmed loss to a SAM was experienced on 10 May, when a U.S. Marine A-4E was downed approximately 13 nautical miles from Dong Ha, at 1712N 10645E. Twelve days later, on 22 May, an O-1, while on a FAC mission near the DMZ, was downed by a probable SAM. When struck, this latter aircraft was flying at an altitude of 6,500 feet in the vicinity of 1705N 10650E. 23/

Toward the end of May, as monsoonal weather moved into the STEEL TIGER area, strike forces shifted the bulk of their efforts into Route Package I. The generally poor weather conditions, not only limited air operations, but also resulted in a near-complete deterioration of the LOCs, thus restricting enemy movement. As a direct consequence, the increased enemy infiltration through Route Package I offered more lucrative targets to the reinforced strike force. In efforts to disrupt this increased enemy activity, strikes were concentrated on vehicles, waterborne logistics craft, and military areas. Air efforts in the TALLY HO area underwent several major developments during this time. For the first time, USAF, Navy, and USMC air resources were utilized jointly in a SLAM type operation in a four-day effort in mid-May.

Some command and control difficulties were experienced, but excellent results were achieved in softening the enemy defenses for the forthcoming Operation HICKORY. This operation was a direct result of enemy infiltration into and violations of the DMZ, which had become sufficiently serious by May 1967, to require a JCS modification of the Rules of Engagement (with White House approval) to permit the first large-scale ground operation into the DMZ by friendly forces. (NOTE: This force, by July 1967, had driven the enemy back across the Ben Hai River, but did little to impair the enemy's ability to reinitiate major offensive operations directly south of the DMZ at some future date.) (See CHECO Report - Operation HICKORY.)

Route Package I and TALLY HO efforts continued to represent a large percentage (39 percent) of the total strike sorties in NVN. The large

numbers of trucks, waterborne logistics craft, and secondary explosions noted during the month indicated, either an increase in enemy supply activity, or the possibility of more frequent location and destruction of lucrative targets by the aircrews.

A boost in the number of sorties flown in Route Package I was attributed to the sorties flown in support of Operation HICKORY, the operation in the southern portion of the DMZ on 18 May. All services exerted pressure on the enemy in the area just to the north (within the DMZ) of the ground operating area. The U.S. Navy supported this operation with an additional aircraft carrier, and attacked targets on both sides of the Provisional Military Demarcation Line (PMDL). As in the past, the enemy's AAA/AW capability grew. The most notable increase was 438 gun positions in Route Package I. 24/

Air operations during June generally maintained the levels achieved in May; both months tallied relatively high amounts of destruction of enemy transportation, POL, and lines of communication. The SAM threat continued, with the enemy apparently making full use of the vast complex of roads and trails, as well as the natural concealment element of the foliage. By frequent changes of SAM site locations and skillful use of camouflage, they presented a difficult problem of detection. In spite of these difficulties, sites were located and attacked.

Since the discovery and destruction of a SAM site in TALLY HO area on 29-30 April, sporadic ELINT intercepts and occasional sightings of possible

SAM-associated equipment indicated the continuing presence of at least one firing unit in that area. Through marked augmentation of its SAM Air Defense System throughout Route Package I, NVN revealed its concern over the destructive capacity of FWMAF air superiority. The number of photo-determined SAM sites in the lower Route Package I (in the area of the DMZ) increased by five.[25/] Two of these were subsequently damaged to the extent that they were no longer of tactical value to NVN.

CINCPAC, drawing upon CINCUSARPAC, CINCPACFLT, CINCPACAF, and PACOM ELINT advice, requested MACV to place passive electronic countermeasures (PECM) ground equipment in the area contiguous to the DMZ to fix the location of SAM sites and contribute to their destruction. Either USA or USMC van equipment could be sited at Dong Ha and Cam Lo and, if DIRNSA's technical research ship "Jamestown" were dispatched to the 17th parallel, triangulation would be possible.

CINCPACAF reported that "the enemy seems to be playing hide-and-seek in, near and around established SAM sites, even if they have been attacked." Contending that no amount of reconnaissance could insure SA-2 site detection, CINCPACAF added: "ARC LIGHT forces employment must recognize the fact that aircraft flown near or over enemy areas may be subject to SA-2 attack." He was "also aware that SAM/B-52 engagement was probable at some point in time. Concern also existed for ground forces who need air support. None of these factors alter the patience of NVN adversary who has exhibited a tenacious desire to deter ARC LIGHT operations near DMZ."

The latest SAM site (VN-191) to be activated in the DMZ area was reported during June. Coastal routes carried the bulk of shuttle support to the DMZ area. This was evidenced by the large increase in vehicle sightings along Route 1A (from 143 to 399) and on Route 101 (335 to 407).

In all of Route Package I, watercraft sightings totaled 1,424. Of 782 craft attacked, 248 (31 percent) were reported destroyed or damaged. Of the total, night operations accounted for 145 attacked, 20 destroyed, and 10 damaged. (NOTE: Pilot figures included 142 sighted, 29 destroyed, 23 damaged, as reported from SEA DRAGON sources.) 26/

With regard to the successes of May and June, an interview with a pilot elicited the following viewpoint: 27/

> *"Our results seem to be directly proportional to the weather. I must say that, toward the 1st of June, our BDA increased to the point where I was sincerely impressed. We get secondary explosions and fires that are, at times, just unbelievable. I think we are really beginning to find some of their POL areas."*

A review of the movements of the NVN SAM battalions for the week of 30 June through 6 July revealed the establishment of a possible SAM threat at 1703N 10701E, based on several ELINT indications received on 2-3 July. The location was dropped when photography showed no evidence of the site and, later, a new location was established six nautical miles west at 170230N 1065400E. After the 6 July report, it was presumed that at least one SAM unit was still operating in the area, since a possible missile transporter was sighted and attacked just north of the DMZ on 13 July. Again, on 23 July,

the estimated active position in Route Package I was relocated to a point seven miles to the northwest of its previous position, based on two Spoon Rest signals and radar homing and warning (RHAW) indications of Fansong activity by an IRON HAND flight. Subsequent to that date, five more Spoon Rest intercepts were reported in the area, but no SAM equipment was detected.[28/]

Although monsoonal weather curtailed vehicular infiltration in the Laotian Panhandle, the enemy continued his efforts to maintain the flow of supplies through Route Package I into the DMZ. As of 6 July, more than 90 percent of all trucks sighted in NVN and Laos, south of 18° N Latitude, were in the Route Package I/TALLY HO areas. During the week of 30 June - 6 July, airstrikes against infiltration routes continued to prove effective, with the toll being reflected in enemy trucks destroyed/damaged, and in secondary fires and explosions resulting from strikes on POL and other supplies. In summary, although strike aircraft obtained excellent results throughout Route Package I, the most lucrative single strike area during the period was along Route 101 against the storage complexes. From 21-25 July, there were 63 trucks destroyed, 10 trucks damaged, 60 secondary explosions, and 78 secondary fires on this route.[29/]

Strike results proved most lucrative at night, as pilots directed their efforts along heavily used LOCs such as Routes 15, 101, 107, 110, and 1A. Although employing all means of transportation, the enemy appeared to place more emphasis on waterborne logistics craft (WBLC). This use of military barges, sampans, and lighters was countered by strike aircraft which, for example, accounted for 20 WBLC destroyed on 24-25 July.[30/]

As stated by a pilot of the 366th TFW: 31/

> *"We no longer see the large convoys. We used to see 100-truck and 50-truck convoys practically every night. Since May and June they have been coming down in just threes and fours and even then they are widely scattered."*

A rallier reported that, on 20 July, his unit transported a number of large shells, designated "DKB", toward the DMZ area. His unit was one of four transportation companies which operated along a route from northern Vinh Linh Province to the DMZ. He described the shells as two meters long, 40-60 centimeters in diameter, and about 90 kilograms (approximately 200 pounds) in weight. MACV commented that the rocket described most closely approximated the 240-mm rocket. This short-range weapon (7,000 meters) could provide the enemy with better bunker penetration capability against such targets as Con Thien. 32/

All in all, attacks on trucks in Route Package I were up almost 100 percent, with 35 percent of those attacked being destroyed. It had been expected that this continued pressure against the NVN transportation system would trigger an intense defensive reaction. Again, this was not the case. The increase in truck traffic in this area was probably due to the heavy rains and poor road conditions in Laos.

At the end of August, the primary objectives for I CTZ remained: (1) to deny entry of NVA units into SVN; (2) to deny NVA/VC forces located in I CTZ the use of Base Areas 101 and 117; (3) to continue destruction of enemy forces in I CTZ; (4) to minimize enemy disruption of forthcoming national

elections; and (5) to prevent enemy access to areas from which vital installations could be subjected to rocket, artillery, and mortar fire. These objectives were attained, with the exceptions of neutralization of Base Area 101, and the complete denial of access to areas from which rocket, artillery, and mortar attacks could be made on vital installations.

Throughout the entire reporting period, the enemy continued avoiding contact with friendly units. Considerable regrouping of units, previously reduced in combat effectiveness, into newly-designated units occurred. These regrouped forces used in operations during the last two weeks of August, were directed toward interference with election preparations. Defeat of some of these regrouped units resulted in the enemy disbanding into small groups. Some of these groups were instructed to hide their weapons and mingle with the population to avoid capture or destruction. The enemy also pulled many of its units to the Western border area, where food and supplies were more easily attainable. The ever-increasing morale problem, supply shortages, and loss of food stockpiles all resulted in a low-level of enemy-initiated activity.

Of interest as to the enemy's future intent and capabilities was the disclosure, through interpretation of 6 August photography, that three PT-76 amphibious tanks were located approximately 12 kilometers north of the northern boundary of the DMZ. This was the first confirmed deployment of these tanks.

Reduced air activity during August also reflected reduced ground activity. A major effort was expended along the DMZ to prevent NVA forces

from penetrating the DMZ. With the increasing tempo of small operations toward the last of the month, airlift of reaction forces, including considerable movement of CIDG forces, blunted the enemy attempts at victory in the village/hamlet level of conflict. Tactical air operations brought steadily increased effectiveness through greater tons-to-sortie ratios and the circular error probability (CEP) decreases in COMBAT SKYSPOT; these demonstrations of SKYSPOT accuracy encouraged CIDG and RF/PF night patrols to request air support. 33/

Enemy efforts to maintain a SAM defense near the DMZ continued during August. Both aerial photography and ELINT indications substantiated the existence of an active SAM site located in the southern part of Route Package I, just north of the DMZ. Regarding this situation, 7AF noted: 34/

> *"The SA-2 battalions operating in the vicinity of the DMZ are probably quite autonomous. Since the NVN MIG force does not operate that far south, it is not necessary for the battalion to coordinate its attacks with higher authority. When a lucrative target appears, the battalion can simply shoot and scoot. Within about three hours after launching an attack, the battalion can be in order and proceeding to a new site."*

This type of SA-2 application required constant U.S. surveillance of a large piece of territory. It also resulted in keeping B-52s in "stand off" operations, for the most part, while minimizing exposure to attack by U.S. airpower.

On 28 August, a USAF F-4C struck a new NVN SAM site in the DMZ area shortly after it was discovered by a forward air controller (FAC). When

first seen, the site (approximately 13 nm WNW of Vinh Linh) contained four loaded missile launchers and a probable control van. This marked the first time SAMs or SAM equipment had been detected in this particular area, but it was the eighth discovered in the DMZ since March. Seven of these latter were occupied when first sighted.

CHAPTER III

SOUTH OF THE DMZ--I CORPS TACTICAL ZONE

Initiated on 3 August 1966, Operation PRAIRIE (Third Marine Division, Quang Tri Province) continued through the first month of 1967. During January, there were 28 days of contact with enemy forces. As in previous months, the action took place between companies and platoons of the 3d and 4th Marines against enemy units of comparable size. Tactical air support was provided by Marine air units flying A-4s, A-6s, F-4s, F-8s, and F-9s. PRAIRIE closed with a favorable kill ratio of 6.2:1 (1,395:225) and 25 VC/NVA captured. 1/

Attesting to the effects of successful infiltration, early on the morning of 27 February, the enemy introduced a new weapon with which they bombarded Da Nang Air Base (90 nautical miles south of the DMZ) and inflicted considerable damage. From dug-in positions, approximately 15 kilometers south of the air base, NVA artillerymen fired an estimated 40-Russian manufactured, 140-mm spin-stabilized rocket rounds, using simple tube launchers with a locally engineered firing device. The attack was brief and effective, with U.S. forces suffering 15 killed. Additionally, 30 Vietnamese were killed as a result of a short round falling in a village southeast of the airfield during the attack. Fourteen aircraft and large quantities of equipment were damaged. 2/

The enemy firing positions were sighted and attacked by USAF AC-47 aircraft and USMC armed helicopters. On the ground, U.S. Marines and ARVN

troops attacked the positions and, in the engagement which followed, captured a VC porter, who related the following story: "A hundred NVA soldiers transported the tubes and prepared the positions. Two local porter groups carried the rockets from a mountain cache, located approximately one day's journey from the firing positions and loaded them aboard 30 boats. Local-force troops moved the boats downstream, adjacent to the firing positions. After the attack, NVA and porter personnel departed the area along the same route they had previously entered."[3/]

On 6-7 March, the enemy shelled Camp Carroll (USMC), south of the DMZ, with approximately 450 mortar rounds and 115-mm spin-stabilized rockets, which resulted in six U.S. KIA and 15 WIA. Chu Lai Airfield was also mortared on 6 March, with the results of that attack being seven U.S. WIA, and one aircraft damaged.[4/]

On the night of 11 March, the 1st and 6th ARVN Airborne Battalions came into contact with two NVA battalions just south of the DMZ and, supported by airstrikes, artillery, and mortars, killed 136 of the enemy, captured 17 weapons, and 400 mortar rounds. Friendly losses were eight KIA.[5/]

On 15 March, Da Nang Air Base received its second enemy 140-mm rocket bombardment. On the night of 20-21 March, enemy mortar and rocket crews simultaneously shelled the U.S. long-range artillery (175-mm) positions at Bio Linh and the ARVN forward operational base at Con Thien. During this latter attack, several hundred mixed-caliber rounds were fired over a seven-hour period. In the subsequent counterattack, reaction forces captured 23

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COMPENDIUM OF STRIKES IN TALLY HO AREA

	SORTIES		STRUCTS.		BRIDGES		WATERCRAFT		TRUCKS		GUN POSNS		SECONDARYS		ROAD	
	Strike	VR-FAC	Dest	Dmgd	Dest	Dmgd	Dest	Dmgd	Dest	Dmgd	Dest	Dmgd	Expls	Fires	CUTS	SAMS
26 Jan-1 Feb.	295	28	0	0	0	0	0	0	0	0	4	12	15	0	0	0
2-8 Feb	373	32	1	0	0	0	0	2	0	0	6	10	0	0	13	0
9-15 Feb	262	35	(STANDDOWN - RESULTS NOT REPORTED)													
16-22 Feb ...	600	37	0	33	2	1	10	25	0	1	9	6	18	0	12	0
23 Feb-1 Mar.	556	26	0	0	0	0	15	5	1	3	0	0	2	0	6	0
2-8 Mar	517	25	0	5	1	2	5	0	0	0	0	8	13	0	10	0
9-15 Mar	531	29	2	1	0	0	0	0	5	1	0	0	18	0	4	0
16-22 Mar ...	659	39	0	26	0	0	0	0	1	3	0	3	26	0	19	0
23-29 Mar ...	565	34	29	23	1	1	10	21	0	0	0	1	16	0	24	0
30 Mar-5 Apr.	577	77	9	14	0	3	0	1	0	1	0	0	42	0	21	0
6-12 Apr	400	53	2	17	2	3	0	0	0	0	0	0	17	0	22	0
13-19 Apr ...	308	40	0	4	1	3	0	7	2	4	0	1	0	0	23	0
20-26 Apr ...	370	55	0	2	1	4	1	0	0	7	0	10	24	0	22	0
27 Apr-4 May.	443	93	0	58	1	1	2	0	0	32	0	15	59	0	29	0
4-10 May	276	69	13	34	2	1	0	2	0	11	0	5	32	0	39	0
11-17 May ...	519	84	1	7	1	3	4	17	10	15	2	9	27	0	11	0
18-24 May ...	655	89	0	17	1	0	0	0	5	12	17	58	48	0	29	0
25-31 May ...	375	79	0	49	3	1	5	18	3	8	5	21	53	0	52	0
1-7Jun	370	80	1	10	2	3	8	13	2	9	8	7	39	0	22	0
8-14 Jun	301	74	0	7	0	3	0	3	4	6	3	26	30	0	29	0
15-21 Jun ...	479	121	0	19	0	3	0	5	1	4	9	9	29	0	23	0
22-28 Jun ...	268	87	5	18	1	5	3	4	3	14	2	13	68	0	37	0
29 Jun-6 Jul.	193	140	19	27	2	2	0	0	1	5	3	10	54	0	31	0
7-13 Jul	330	180	4	18	1	2	4	6	2	10	2	24	97	0	31	1
14-20 Jul ...	241	83	0	19	3	3	5	22	0	10	0	6	77	0	38	0
21-27 Jul ...	191	62	0	9	7	12	20	42	2	6	4	12	23	0	59	0
28 Jul-3 Aug.	287	74	1	19	4	2	3	7	28	46	7	26	322	438	29	0
4-9 Aug	259	64	0	15	3	1	5	11	6	8	8	17	83	452	33	0
10-16 Aug ...	276	48	0	12	0	2	2	5	15	31	2	8	203	472	15	0
17-23 Aug ...	282	44	13	34	6	4	0	0	8	0	0	30	70	181	27	0
24-30 Aug ...	389	50	17	21	6	8	5	5	2	8	0	0	39	85	56	0
REPORTED TOTALS	12,147	2,031	117	518	51	49	102	221	101	255	91	342	1554	1628	766	1

FIGURE 3

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launchers and 11 rockets at the firing sites. Although never proved, there was speculation that NVA heavy artillery units based in southern North Vietnam might have participated in the shelling. 6/

During March, the enemy attacked many other vulnerable and lucrative targets such as province and district capitals, secluded and lightly defended outposts, FWMAF base camps and convoys, etc. As Free World and Government forces continued their squeeze and strangulation of enemy operation, the VC/NVA forces apparently were relying more and more on these forms of attack with their attendant low risk, relative security, and high success rate. However, tactical airstrikes on 22 March killed 160 enemy forces near a a Special Forces Camp. 7/

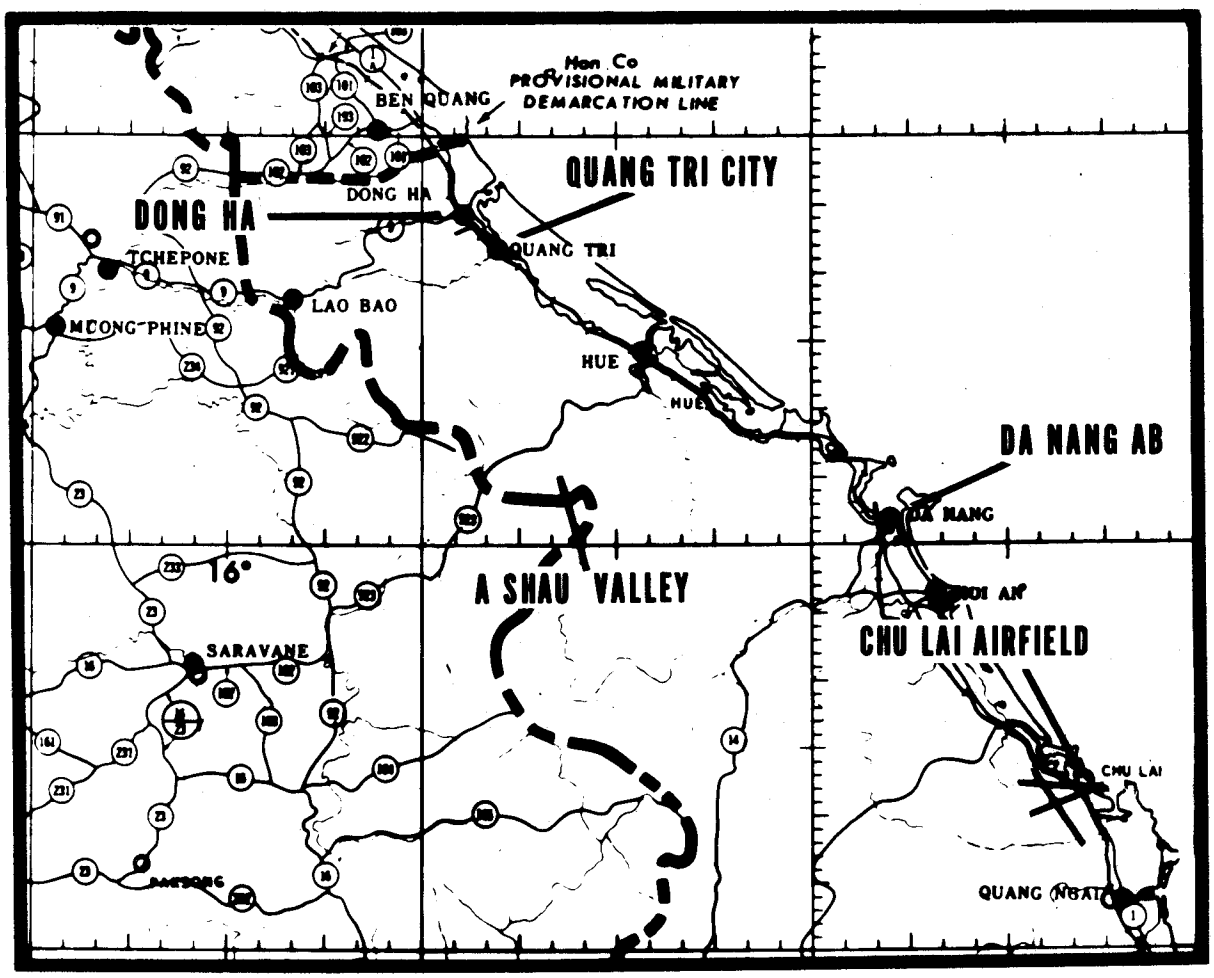
The third Marine search-and-destroy operation, PRAIRIE II, (initiated on 1 February 1967) terminated 18 March, with friendly losses at 93 killed, 483 wounded, and one missing; enemy losses were 693 killed, seven POWs, and 569 detained. PRAIRIE III followed immediately and terminated on 19 April, with final results: friendly--55 KIA, 529 WIA; enemy--252 KIA, 312 detained. Operation PRAIRIE IV was immediately instituted and continued through the month of April in Quang Tri Province. 8/

During April and May, contacts with the enemy were the most frequent, intense, and prolonged in I Corps, the DMZ, and south of it. U.S. Marine installations in the area were almost daily targets for Viet Cong/North Vietnamese Army artillerymen. The forward command posts, such as Gio Linh and Con Thien, were the hardest hit by mortar and artillery fire. During

the night of 20 March, alone, more than 700 rounds hit the U.S. artillery positions at Gio Linh, and more than 100 rounds fell on the Con Thien outpost. U.S. casualties, however, were light and only two 175-mm guns were slightly damaged. Near Gio Linh, the enemy destroyed 11 trucks of an ammunition resupply convoy. 9/

Along with other major outposts receiving the mixed barrage, the cities of Quang Tri and Hue were also bombarded. Enemy ground forces attempted assaults on Key Free World Installations with varying degrees of success. The enemy's attack at Lang Vei Special Forces Camp (in western Quang Tri Province), with help from inside the friendly ranks, was particularly successful. However, two major attacks against Con Thien by elements of NVA's 812th Regiment were foiled, with severe losses being sustained by the enemy. After an 11-day battle with elements of the enemy 325th Division, the U.S. Marines were able to secure three strategic hills (881N, 881S, and 861) approximately five miles northwest of the Sanh Special Forces Camp, also in western Quang Tri Province. The Marines routed the enemy after U.S. tactical aircraft and B-52 bombers delivered the greatest number of airstrikes during any single operation in the history of the South Vietnam conflict to that date. 10/

On 18 May, USMC and ARVN forces conducted a land, air, and amphibious assault into the southern half of the DMZ. Land forces penetrated the DMZ to the Ben Hai River, then turned southward on a broad front, destroying enemy forces and evacuating noncombatants. The heliborne and amphibious forces also turned south shortly after entering the southern portion of the



I CORPS TACTICAL ZONE

FIG. 4

DMZ over the beaches. (Fig. 5.) As in previous campaigns of this type and prior to initiation, enemy concentrations and artillery north of the operational area were subjected to massive bombardment by friendly tactical air, naval gun fire (NGF), and artillery. During the first three days of the campaign, U.S. Navy Task Force 77 made available 125 sorties per day. This force was in addition to the large number of USMC and USAF tactical air units on hand to lend support. The successful campaign resulted in kill ratios of 3.1 to 1 (445:142) for the two U.S. operations combined; and 16.3 to 1 (342:21) for the ARVN operation. 11/

Enemy activity in I Corps continued through June, with warning being received of large-scale enemy attacks against the Con Thien outpost. U.S. Marines acted by sweeping the areas adjacent to the outpost. A strategic hill used by the communists as a mortar position was captured, and numerous bunkers and tunnel complexes were discovered and destroyed. Communist artillerymen continued their assault by fire against Con Thien, and the U.S. 175-mm artillery installation at Gio Linh. 12/

According to an Intelligence source, 130 workers crossed the Ben Hai River (YD 231792) on 29 June, carrying 500 rounds of 140-mm rocket ammunition. The rounds were reportedly stored two kilometers east of the crossing point (YD 259798). The same source reported the movement on 30 June, of 1,000 rounds of 82-mm mortar ammunition. Source stated that the ammunition was to be moved along the coast of the Gio Linh District. 13/

Farther south in I Corps, the Marines completed their second phase of

Operation UNION, a spoiling operation in Quang Tin Province, targeted against the NVA 2d Division. As of June, elements of this division suffered heavy losses to the extent of 1,500 killed. It was believed that this action forestalled any attempts by the enemy to mount an early offensive in the area.

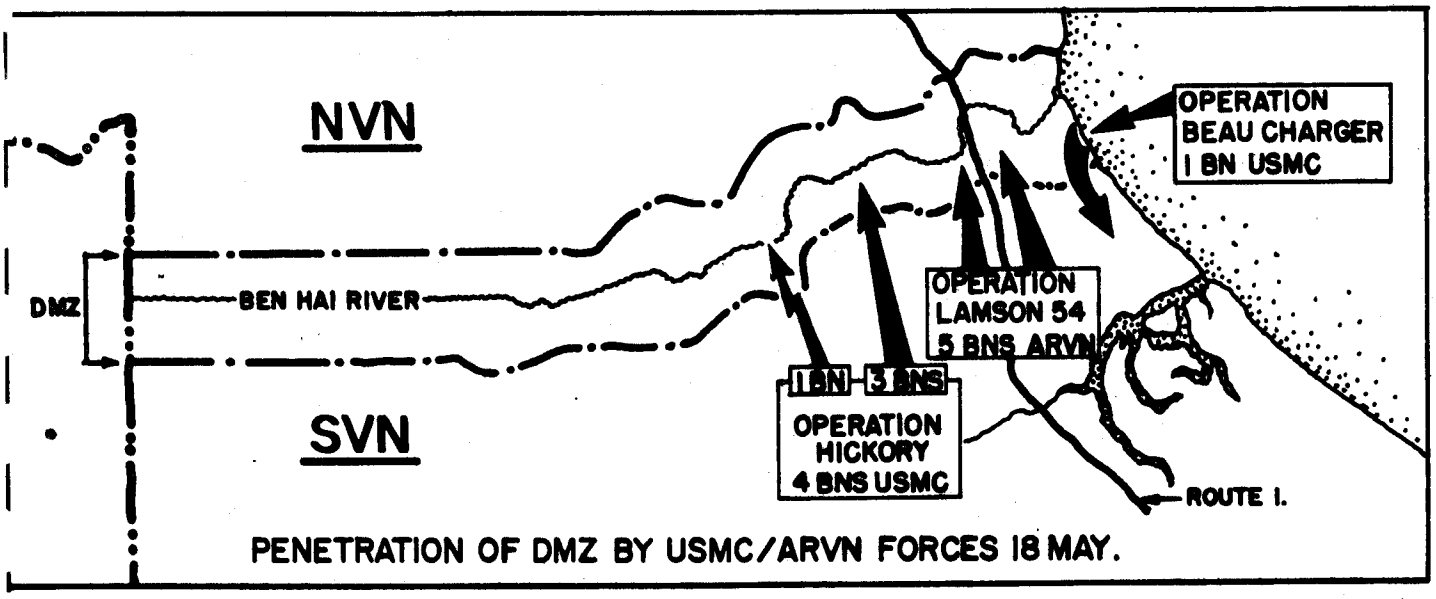
In the coastal area north of Quang Tri City, a South Vietnamese airborne battalion engaged an estimated enemy battalion. The enemy force withdrew, leaving behind 33 weapons and 150 of his dead. Friendly losses were one killed and 40 wounded. 14/

Based on enemy concentrations, the areas between Route 9 and the DMZ in Northern Quang Tri Province were the most likely to witness continuing action between Free World and enemy forces. Reports were received of a division-size unit moving into the vicinity of Da Nang, purportedly using the improved A Shau Valley Complex as its base of operations. Although the reports were from low-level sources, the magnitude of preparations in the A Shau Valley lent some credence to this stepped-up activity on the part of the enemy.

Through the period of June - August 1967, friendly positions at Dong Ha, Gio Linh, Con Thien, and other forward positions in South Vietnam were periodically bombarded by artillery, rocket, and mortar fire. This bombardment was being directed from below, above, and within the DMZ. The enemy mortars, rockets, and other weaponry located within and below the DMZ were highly mobile and difficult targets to acquire. Target acquisition of the heavier artillery above the DMZ was also difficult, due to concealment and

SIGNIFICANT MILITARY OPERATIONS - I CTZ
(Quang Tri Province)

	Date Init.	Date Term.	RESULTS Friendly KIA	WIA	MIA	Enemy KIA	DET.
LAM SON 142	Cont.	Cont.	142	353	32	157	1
BEAU CHARGER	18 May	26 May	23	79	0	83	0
LAM SON 54	18 May	27 May	22	112	0	392	80
LAM SON 59	19 May	21 May	53	105	10	352	5
PRAIRIE IV	20 Apr	31 May	164	1,240	0	489	102
HICKORY	18 May	28 May	119	817	0	367	36



PENETRATION OF DMZ BY USMC/ARVN FORCES 18 MAY.

FIG. 5

camouflage of the gun positions, which were well dispersed and constantly being moved. By contrast, the U.S. artillery forces in the area were stabilized. 15/

Enemy gun positions located across the DMZ were in the TALLY HO operational area for which 7AF had responsibility. In and immediately below the DMZ, the U.S. Marines were responsible for ground and air operations. Although both artillery and airstrikes had been directed aginst enemy positions in the TALLY HO area, the rise in firing frequency required a concentrated effort to silence the guns. During May and June, Dong Ha received a reported 188 rounds of enemy artillery and rockets, Con Thien received 332 rounds, and Gio Linh 1,953, with much of the fire coming from the Marine area of responsibility. Stepped-up attacks during July and August resulted in Dong Ha receiving a reported 478 rounds, Con Thien 540, and Gio Linh 3,410 of all types. These positions were to receive more than 1,000 rounds during the first three days of September. 16/

The 7AF Commander, in discussion with COMUSMACV, stated he was making plans for increased reconnaissance and strikes in the 7AF area, and had directed his operations and intelligence staff to formulate plans for a SLAM-type air operation to neutralize the enemy artillery. The plan was developed and approved by the 7AF Commander and, after coordination with COMUSMACV, was scheduled for implementation in September. 17/

On 28 August, elements of the 1st Marine AMTRAC found two rocket sites six kilometers north of Dong Ha. One site contained 15x140-mm rockets, the

other 34x140-mm rockets. All rockets were wired and aimed at Dong Ha but were disarmed by USMC EOD teams dispatched to the sites. 18/

CHAPTER IV

WEST OF THE DMZ--STEEL TIGER/TIGER HOUND

During the first weeks of 1967, the communists appeared to shift their emphasis of truck movement from Route 911, north of the junction of Route 912, to Route 23. A Road Watch Team, located in the area of WD 7778, reported no truck movement between 2-10 January, although they reported sighting 101 Communist troops walking south and 50 troops moving north. However, between 15-20 January, this team reported 225 trucks moving south and 80 northbound past their position.

The enemy was apparently attempting to reestablish a second road network from the NVN border through Laos to the SVN border. CRICKET reports estimated traffic about equally split on Routes 23 and 911. No clear-cut advantage from this split seemed to accrue, either to the enemy, or to the interdiction program. On the one hand, the benefit derived from traffic dispersion was offset by the requirement for duplicate AW and road repair crews, plus truck parks with associated supervisory and maintenance personnel; on the other hand, necessity to divide the air interdiction effort to cover both routes presented no difficulty, considering the large number of attack sorties which were being expended in STEEL TIGER. One distinct enemy advantage in the use of Route 23 lay in the extensive cover provided by the jungle, and it was hoped that defoliation would reduce the problem. 1/

An infiltration report of 27 January noted that one of the largest convoys (43 trucks), seen in a long time was just north of Tchepone.

Numerous interdictions were reported throughout the period along Route 23, but the level terrain which this LOC traversed in the western portion of Echo Sector, provided the enemy with relatively easy bypass conditions. Key choke points struck included RLAF 666 (BE 617-G1163) on Route 912 and RLAF 48 (BE 617-01052) on Route 23. FAC-selected interdiction points on Routes 911 and 91, and numerous small bridges and choke points along the western and southern portions of Route 23 were also struck, using 750-lb. bombs with time-delay fuzes. 2/

Shortly after midnight, on 11 January, two A-1Es out of Pleiku AB, SVN, hit "suspect" barges on the river three miles southwest of Tchepone, Laos, and, while pulling off target, reported seeing "two red balls which appeared to be some sort of ground fire". The flight was at 4,000 feet when they saw the first red ball rise slowly to approximately 8,000 feet, followed by a second red ball, both of which rose almost vertically and did not detonate. Slowness of rise was the aspect which surprised the pilots, who reported that it did not resemble any commonly known type of groundfire. This sighting, as well as other similar sightings over the past six months, were attributed to probable launchings of relatively small, unguided rockets, and were not considered a significant threat to U.S. aircraft. Being unguided, they were, at best, probably intended to divert the pilot from accomplishment of his mission. A more likely explanation, however, was that these rockets--if they were rockets--were used to alert ground or water traffic in the area that enemy aircraft were present, and for such vehicles to take necessary precautions against attack. The fact that practically all similar sightings

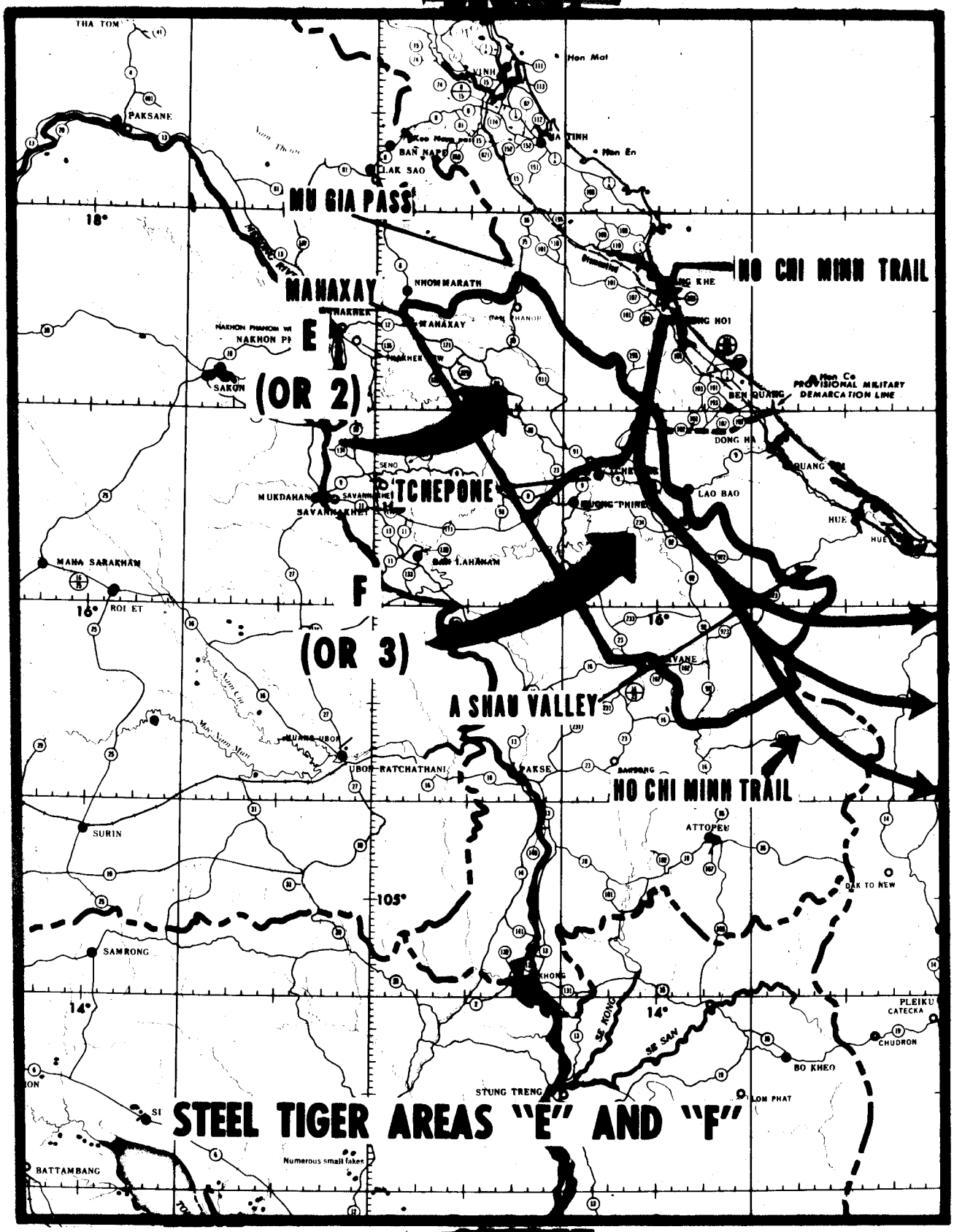

MU GIA PASS
HO CHI MINH TRAIL
MAHAXAY
E
(OR 2)
TCHEPONE
F
(OR 3)
A SHAU VALLEY
HO CHI MINH TRAIL
STEEL TIGER AREAS "E" AND "F"
PROVISIONAL MILITARY DEMARCATION LINE
THA TOM
PAKSANE
BAN NAPE
LAK SAO
NHOM MARATH
THAKHEK
WANAXAY
NAKHON PHANOM
SAKON
SENO
MUKDAHAN
SAVANNAKHET
LAHANAN
MAHA SARAKHAM
ROI ET
UBON RATCHATHANI
PAKSE
SURIN
SAMRONG
STUNG TRENG
BATTAMBANG
Numerous small lakes
DONG HA
LAO BAO
HUE
ATTOPEU
DAK TO NEW
PLEIKU
CATECKA
CHUDRON
BO KHEO
SE KONG
SE SAN
18°
16°
14°
105°

FIG. 6

had been of either one or two rockets might have indicated a simple code used to signal traffic to an alternate route, take cover--or some other course of action--due to interdiction on the planned route. 3/

During January, the previously mentioned CRICKET operations were begun, utilizing FACs stationed in Thailand to coordinate strikes against Laos targets (authorized), which had been discovered through intelligence obtained from Road Watch Teams. The significant increase in truck "kills" in February was attributed to these CRICKET-directed strikes.

The air effort in the Laotian Panhandle was further delineated through refinements included in the 7AF Operations Order 433-67, just after the new year began. Specific operational procedures and employment of assets were specified for the TIGER HOUND/STEEL TIGER (TH/SL) areas. Special Zones were designated in the Panhandle operational areas: Zone 1 was a stipulated special area in TH; Zones 2, 3, and 4 were special areas lying within the SL area. The new feature introduced was essentially that Zone 3 became a special category area. The initial promulgation of the order appeared to indicate that Zone 3 strikes could be executed only under FAC control and that COMBAT SKYSPOT bombing was prohibited. With statistical proof of the reliability of CEPs achieved under this system of bombing, 7AF appealed the apparent restriction in the use of the MSQ-77 system. After AMEMB, Vientiane, approval, COMUSMACV informed CINCPAC that COMBAT SKYSPOT strikes were permissible in Zone 3 and that Thai/Lao observers had validation authority in Zones 1, 2, and 3. 4/

Because of the Tet Truce, which precluded strikes in NVN, and poor weather, which severely limited strikes in the BARREL ROLL area (North Laos), the majority of the strike effort concentrated in STEEL TIGER during the period 9-15 February. Strikes were primarily concentrated along the infiltration routes--against truck parks, storage areas, and interdiction points, as well as against fleeting targets. Pilots reported a total of 14 trucks destroyed and 28 damaged during the period. Secondary explosions were also reported as a result of night strikes against truck activity, although truck kills could not always be confirmed. On the night of 10 February, for example, F-4Cs struck trucks on Route 911, with pilots reporting two or three secondary explosions and several secondary fires. On the night of 11 February, F-4Cs again struck trucks, this time on Route 12, west of its junction with Route 23. The results of this strike were eight secondary explosions and one secondary fire.

On the night of 14 February, an O-1F, using a Starlight Scope, spotted 19-22 trucks on Route 911, just north of its junction with 912. The information was passed to a flareship with the following results: Four trucks destroyed and 10-12 heavily damaged, with 29 more secondary explosions and 31 secondary fires reported from strikes against storage areas and truck parks. Flights which found no other lucrative targets harassed enemy movements by interdiction strikes with a total of 112 interdictions, including bridges and fords destroyed between 9-15 February. The large amount of traffic sighted moving through Mu Gia Pass during the Tet Truce was not seen further south in Laos, indicating the enemy was probably storing material

in the area north of Route 23/911 junction for eventual shipment south to SVN and west into Mahaxay. 5/

Target strike authorization was clearly defined on 2 March. Authorization was given to the JCS to approve RVN and Laotian strikes, subject to the following conditions: Strikes against targets wholly or partially in RVN (including that portion of the DMZ south of the Demarcation Line) would require prior concurrence of GVN and AMEMB, Saigon; strikes wholly or partially in Laos would require prior concurrence by positive message response to strike nominations of AMEMB, Vientiane; and targets would be a minimum distance of one kilometer from the nearest noncombatants and would not contain monuments, temples, or other landmarks, the destruction of which might cause serious political problems. Strikes other than those so defined required concurrence of SECSTATE and approval of SECDEF. COMUSMACV could secure strikes against targets of a fleeting nature, or those that posed an immediate threat to U.S. or friendly forces, if clearly and specifically identified. 6/

During March, photographs revealed that Route 922, in the lower Laos Panhandle, was extended across the SVN border and could apparently support trucks as far as Ke Kou, in Thua Thien Province. It was suggested, when this fact became known, that the enemy was planning extension of this road east on a trail which led into the A Shau Valley and connected with a northern extension of SVN Route 548. In mid-March 1967, POL drums and a trench system, just east of Route 922 in Laos, were sighted, suggesting that the road was being prepared for greater truck use. 7/

Route 922 was identified as a part of North Vietnam's infiltration network as far back as 1964. In 1965, it was realigned in order that it might be used on a year-around basis--even during the rainy season. At this time, it was believed able to support 250 short tons per day in the dry season and 50 in the wet season. After the battle of A Shau, truck activity slowed and disappeared entirely during the May-October rainy season. During this time, the road was allowed to deteriorate and very little vehicular activity was noted until the recent effort to extend the route into South Vietnam. 8/

In answer to this potential threat, B-52 missions struck in the area. One mission (16 April) resulted in severe damage to two bulldozers and the destruction of a truck. The bulldozers, being only two nautical miles west of the SVN border, attested to the efforts at improving and extending Route 922.

The large number of kills during March-May 1966 was attributed to TIGER HOUND operations--many in the Panhandle area south of Route 9, on Routes 92 and 96. The presence of large numbers of vehicles south of Route 9 indicated they had successfully "shot the gap" in the upper Panhandle during the early part of the dry season--a situation which had not been repeated during the dry season of 1967 due, apparently, to constant pressures applied by airpower on all routes of the LOC system, since the start of the 1967 dry season. The heavy toll of enemy vehicles taken in the southern sector of the Panhandle at the end of the 1966 dry season, plus the heavy pressure placed on enemy vehicular activity in the northern sector had kept enemy traffic south of Route 9 to a minimum. It followed that the lack or slow rate of road repair

activity in the southern Panhandle in 1967, could be directly attributed to the fact that the enemy did not have the necessary supplies nor vehicles in place.[9/]

In testimony to the growing effectiveness of U.S. air efforts against enemy vehicular activity in the TIGER HOUND and DMZ areas, Pathet Lao Lieutenant Manivan, Chief of the Pathet Lao Motor Section in the Savannakhet Sector, who defected to friendly forces, stated he had seen more than 500 damaged trucks on his 56-day round trip from Tchepone to southern Attopeu Province, between 21 June and 26 August 1966. He added that the three-truck convoy, of which he was a part, was attacked three times during the trip, with two of the trucks being destroyed. He also stated he saw 75 trucks, which the NVN soldiers said were destroyed in one attack, at a truck park south of Muong Nong. Manivan closed with the statement that he had been in seven air attacks in four months.[10/] Although these incidents occurred during 1966, it was felt that a similar situation existed during the period January-August 1967.

An insight into the enemy logistic effort in the DMZ area and on trails leading from the DMZ into Laos was brought out in an interview with the Commander of the Khe Sanh Special Forces Camp (TIGER HOUND area). According to this interview, the "Santa Fe Trail"--actually a series of trails running from the western part of the DMZ, southwest into Laos, to approximately Route 9 near the village of Ban Dong and the intersection of Route 92--provided an infiltration route by foot, bicycle, and/or cart. The interviewee indicated he had caught six bicycles in the open, in one instance.

He stated that the Lao 33d Battalion Intelligence Team had seen 75-100 bicycles a day moving through Ban Dong. The bicycles, which were pushed, carried about 400 pounds of supplies each.

It was evident that the enemy resorted to greater use of coolies for transport of supplies, even in the areas of the main LOCs, due to heavy air pressures. A Road Watch Team on Route 914 (at XD 3727) reported that a coolie train of 98 people moved past its position on 14 January. Eighty-two of the coolies were noted carrying ammunition, seven were carrying rice, and nine were carrying food. 11/

From various other sources came the "modus operandi" of trucks utilizing the Ho Chi Minh Trail. Along this route, the North Vietnamese maintained a considerable logistics system, manned by a relatively large number of personnel, to render assistance and man way-stations. It proved an effective system despite the best efforts of air to disrupt it. A compilation of some of the means and methods used to maintain the operation of this system follows: 12/

> *"Generally, vehicle shelters and supply storage areas are located at intervals varying from 10-30 kilometers, depending on the terrain. One type of vehicle shelter in common use consists of 30-50 individual hillside excavations with earthen roofs, each large enough to accommodate a single truck. In the same general area as the truck parks, but 500-1000 meters away, are an equal number of supply shelters. The facilities are usually located from 500 to 1,000 meters from the road.*
>
> *"In addition to the supply shelters....work camps, military structures, construction and repair equipment parking are all usually 500 meters or better from the main road. Though the enemy may not be directly familiar with the restrictions placed upon our armed recce aircraft, experience has taught him his chances for*

survival increase as he moves back from the road. Each shelter area is commanded by a North Vietnamese officer, who controls truck convoy movements and provides assistance to disabled vehicles. Normally, convoys arrive at shelter areas prior to sunrise. After arrival, each truck's cargo is unloaded at one of the supply shelters and then the truck is parked in a vehicle shelter. Drivers sleep in hammocks in the nearby jungle. After sunset, the trucks are reloaded and the journey continues. The North Vietnamese officer is also responsible for determining if a convoy can pass his area without being caught between shelter areas after sunrise, and for notifying the next shelter area of a convoy's approach.

"Every third to fifth shelter has a refueling capability. Telephone communication is maintained between the shelter areas. NVN telephone operators use Chinese manufactured equipment and operate the system between dusk and dawn each day. Each shelter area has 30 to 60 NVN soldiers, the actual number depending on its size, area of responsibility and the frequency with which the road or shelter area is bombed. These soldiers are equipped with the necessary tools to make quick road repairs.

"Supplies are normally moved by the shuttle system in which groups stationed at one area move supplies a definite distance, usually between three and seven shelter areas, and then return to their point of origin. This eliminates the need for a guide, as each driver is familiar with his particular route. It has the added advantage of allowing the trucks to be serviced by mechanics familiar with the individual vehicle.

"The firing of three shots is used as a standard signal for vehicles disabled or in need of assistance, which is usually nearby. Repairable vehicles are towed to the next shelter and not left on the road. Non-repairable vehicles are stripped of salvageable parts, which are moved by truck back to NVN, after which the truck is removed from the road.

"There have been many reports of signal systems used to warn trucks of approaching aircraft. The most common is a single shot, although a single burst from an automatic weapon appears to have the same meaning. In areas with unobstructed visibility, a beacon system has been reported. It consists of two red lights that are turned off when an

aircraft approaches and turned on again when the aircraft leaves and traffic can be resumed. In other areas there have been reports of lookouts riding on the cab roof. In these cases, warnings were passed vocally. Moveable barriers are also reported as in use to stop traffic when air attacks were expected.

"The reaction to approaching aircraft seems to be fairly standard. If a plane is heard or seen dropping flares, the vehicles halt. As long as the aircraft remains at a distance or at high altitude, the vehicles continue with their lights on but shielded. If the aircraft is in the immediate vicinity, lights are turned off and the trucks seek cover. Personnel head for the numerous foxholes and shelters usually constructed about 50 yards from the road.

"Concerning maintenance - in the majority of instances, only minor repairs are made on vehicles. Repairs were largely those incurred by vehicles traveling at slow speeds on unimproved roads, through hilly terrain with steep grades. These included the repair of radiators, welding of gas tanks, replacement of clutches, transmissions and brake parts, spark plugs, springs and welding other minor parts. A common practice for trucks moving in convoy is to have the lead truck use a low headlight and the following trucks a low red light. Another lighting arrangement is small, two-inch lights under the truck chassis, affording the truck driver a view of five meters to the front. A vulnerable point for the vehicles is at ford crossings. Usually, lights must be raised to insure that the vehicle is properly aligned for the crossing. They are also vulnerable in natural and defoliated open areas with limited concealment. It is considered possible that the enemy sends out patrols to sweep an area to enable convoys to move without being detected by roadwatch teams.

"Although bulldozers and graders are in service, the overwhelming majority of road repair and construction work is done manually. Hand tools utilized are hoes, picks, shovels and axes. Dynamite is commonly used to clear obstructions and to loosen fill material. The essential materials are wood, bamboo, rock and earth fill. These are readily available, adjacent to routes, to facilitate rapid repair of bridge and bomb craters by work crews in the area.

VEHICLE SIGHTINGS

	ROUTE	SIGHTED MARCH 1967	DESTROYED	DAMAGED	SIGHTED MARCH 1966
STEEL TIGER	12	22			15
	23	270	28	20	26
	911	237	68	41	71
	912	90	18	8	11
	91	109	29	14	20
TIGER HOUND	9	30	1	1	244
	92	43	16	12	272
	914	53	2	1	0
	96	17	7	1	71
	110	9	0	0	0
	16 Seg. "0"	15	0	0	5
	TOTALS	877	169	98	735

FIGURE 7

"A corduroy, either of logs, limbs or bamboo, is used to facilitate passage of vehicles over deteriorated portions of the road. This method also prolongs the life of the route as the rainy season approaches. Corduroying, with the addition of a top layer of crushed rock, has also been reported. Log bridges are constructed across small streams and depressions. This type of construction is readily reparable by the work crews stationed along the routes. Using simple tools and materials and methods, the enemy has been successful in keeping his major routes open. Road workers, both military and civilian, leave their foxholes as soon as a strike is over to repair the roads. Often, these workers can repair badly damaged roads within a few hours.

"The system owes its success to the vast numbers of people devoted to keeping the roads open and the trucks moving. The trucks are, in turn, backed up by bicycles, pack animals and coolies - all capable of bypassing the most severe interdictions. As long as this huge labor pool exists and persists in its efforts to move men and supplies to the south, our task of countering will be extremely difficult."

The comparison chart (Fig. 7) of sightings during March 1967, with those of the same period in 1966, indicated the enemy was less successful in moving supplies and vehicles southward in 1967. Further, in March 1966, there was a hue and cry to hit trucks in TIGER HOUND with in-country aircraft. The results were outstanding, but by the end of August 1967, such an effort was not required due to the continuous and effective use of air against vehicles in the northern Laotian Panhandle (STEEL TIGER) area.

According to the Deputy Commander, 7AF/13AF, it was estimated that more than 500 truck parks existed along the lines of communication in the STEEL TIGER area, with 209 having been actually plotted. It was also indicated that Route 912 could become the major infiltration route during the rainy season, inasmuch as Route 23/911 would, in all probability, be unusable. Pilots

reported gravel stockpiles along Route 912, which had good drainage except at Ban Laboy. 13/

Reports indicated the enemy had extended and improved Route 922 eastward to the Laos/South Vietnam border area. Vehicle tracks on Route 922 indicated a probable enemy attempt to move as many supplies as possible during the dry season toward the SVN border (near the A Shau salient and the highland area). It was felt this area should be closely monitored by air and struck continuously.

Farther south, the Route 165 eastbound artery off Route 96 was reported motorable and showed signs of traffic from Chavane as far east as YB 675990. Recent reports also indicated increased boat traffic on the Se Kong. Supplies moving south were undoubtedly destined to replace those destroyed by friendly special operations teams in the tri-border area. 14/

On 13 March, a further refinement in Laotian interdiction operations was introduced through Operation STOPWATCH. This supplement to TIGER HOUND provided that "the target area will be interdicted and then kept under complete observation 24 hours a day for a period as determined necessary". Surveillance during daytime would be carried out by O-1s and OV-1s; continuous nighttime surveillance by BLINDBAT aircraft. 15/

The air commitment to Operation PRAIRIE was again delineated on 31 March with the release of the basic operations order. Under COMUSMACV direction, U.S. and RVN forces had the mission of countering infiltration from Cambodia and Laos into the RVN. Both USAF and VNAF aircraft were

authorized to infiltrate, exfiltrate, support, and/or resupply the operational forces. As additives, airborne FACs, VR, and photo reconnaissance, and radio-relay aircraft were authorized participants. In addition to USAF assets under COMUSMACV control, the PACAF forces were tasked to provide forces and aircraft as required by COMUSMACV. 16/

During April, enemy vehicular traffic was heavy, with most sightings being reported at night. The use of Starlight Scopes continued to serve as an effective source of enemy vehicle detection. FAC or MSQ control continued to be an operational requirement for all strike sorties in Laos, which hampered strike effectiveness against targets of opportunity due to response time. 17/

With the granting of authorization for attacks against hostile AAA/AW sites, without FAC control, the kill rate of AAA amounted to 130 for April as compared to 62 for the previous month.

During April, highly-experienced pilots flying reciprocating engine aircraft in the vicinity of Route 911 reported ground fire from what may have been a new type AA weapon. Reported characteristics indicated a high rate of fire, bursts at 6-10,000 feet (mostly at 6,000 feet), and brilliant white bursts of smaller size and shorter duration than 37-mm. Further, not all rounds were tracer (as in 37-mm fire), and the tracers were smaller (golf-ball size) than 37-mm (baseball size). The reported rate of fire was most significant. Whereas 37-mm fire in the vicinity of Route 911 was usually noted in successive volleys of six to eight rounds each, the new fire

"hosed up" in two to five volleys, with the rounds per volley bursting too fast to count.

No other credible evidence of the introduction of a new type AA weapon into either NVN or Laos was presented. However, a Pathet Lao defector reportedly told a Laotian officer that the NVN brought a new AA gun into the Sam Neua area of Laos in early February. According to the unevaluated report, the defector said the gun was a rapid-fire, 37-mm cannon, known as the "la la". Six of the new guns were reportedly positioned at the entrance to caves in the Muong Liet area, while 12 others were employed at the Neo Lao Hak Sat provincial headquarters at Ban Hang Long. No usual type ground fire was reported in this 37-mm threat area, so the defector report was basically discounted. It was, however, significant that the defector reported the gun as rapid fire 37-mm. Both the Soviet ZU-23 and Czech 30-mm M-53 fit the reported characteristics.[18/]

May marked the arrival of the southwest monsoons and accompanying deteriorating weather. According to the Deputy Commander, 7AF/13AF, during the last week of May, Routes 23 and 911, south of the Mu Gia Pass had very light traffic. These routes were watersoaked with very large puddles noted in some spots. Route 12 had been interdicted in many places and was impassable; however, a bypass paralleling the Se Bang Fai River was usable. On Route 911, wooden bridges had been built to span the craters at WD 9492. Route 912 was open, in good condition, and supported moderate traffic. Logs had been laid on the Ban Laboy Ford, enlarging it into what appeared to be an underwater bridge--almost taking the shape of a dam. A bypass

TRUCK TRAFFIC, SOUTHERN LAOS
(May, 1967)

ROUTE	DIRECTION	DAYS OBSERVED	TRUCKS SIGHTED
15	N	21 days	238
WE7955	S		252
12	N	26 days	23
WE4233	S		27
8	N	27 days	100
WE1530	S		85
914	N	29 days	34
XD3333	S		90
92	N	19 days	13
XC8378	S		32
922	N	18 days	4
XC9093	S		7
924	N	16 days	18
XC8356	S		31
96	N	16 days	8
XC9750	S		36
110	E	19 days	46
YB0725	W		77

TOTAL OBSERVED - NORTHBOUND = 438
TOTAL OBSERVED - SOUTHBOUND - 637

(Reported by roadwatch teams for days and from points indicated.)

FIGURE 8

road was under construction around the Ban Laboy interdiction point. Route 91 was interdicted at XD 1845, where there were several large craters. No traffic appeared to have proceeded past this point. In the southern sector of the Panhandle, Routes 96 and 964 were fairly well soaked, with water standing in ruts. There appeared to be little traffic on these routes, but moderate traffic was noted along the entire length of Route 914. Route 922 was interdicted in a corduroyed section at XC 8300 and Route 92 was impassable at XC 8173 due to landslides. 19/

With the onset of the rainy season in the Laotian Panhandle, the following pattern of enemy logistics was anticipated: The enemy would attempt moving some trucks through Mu Gia Pass from North Vietnam to the storage area near Ban Phan Hop--probably averaging about three trucks per day. A certain amount of supplies would be moved from the storage areas in the Mu Gia Pass region, westward toward the Maxhaxay area by portage, using coolies and Pathet Lao soldiers. Route 137/912, with its limited all-weather capability, would probably be maintained for minimal truck movement of supplies to the Tchepone area, thence down Routes 914 and 922 to the base areas near the A Shau Valley in South Vietnam. 20/

With enemy infiltration through STEEL TIGER being curtailed by the continuing shift in weather, strike sorties and results in this area were limited during June. Most of the results obtained were from T-28 strikes along Routes 911, 912, and Routes 23, 12, and 1201 from Mu Gia Pass down to Route 911. Below the 911/912 junction, the enemy showed no interest in repairing interdictions which had existed since May. 21/

Examples of results of airstrikes conducted in Laos during the month of June follow: 22/

- During the day of 11 June, there were 21 USAF sorties flown against a concentration of 3,000 troops reported by CAS near Route 911B, causing nine secondary fires and 12 secondary explosions. On 21-22 June, the same area was struck by a total of 18 USAF sorties, with no BDA reported.
- On 26 June, Yellow Bird 41 (a B-57) struck a suspected storage area one mile west of Tchepone Highway Bridge, causing 40 secondary explosions, four fires, one truck damaged and one truck destroyed.
- On 29 June, Yellow Bird 46 (also a B-57) struck the Ban Payout Storage Area at 1641N 10628E and caused 40 to 60 secondary explosions.
- On 30 June, two T-28s armed with four M-47s and eight LAU-59s, attacked five military structures and two boats, resulting in the destruction of all five structures and one of the boats, with the second boat being damaged.

For a resume of other truck and watercraft sightings, refer to Figures 8, 9, and 10.

As a result of a MACV request on 7 June 1967, CINCPAC cancelled the requirement for Laotian strikes to be either FAC or MSQ-77-controlled. Previously specified zonal Rules of Engagement now applied.

July marked the third consecutive month in which total attack sorties in South Laos decreased. In Sectors "E" and "F" of STEEL TIGER, attack sorties flown by USAF aircraft were 346 and 271, respectively. This reduced effort in South Laos was necessitated by the decrease in enemy activity in

TRUCK TRAFFIC - SOUTHERN LAOS PANHANDLE
(June, 1967)

ROUTE	DIRECTION	DAYS OBSERVED	TRUCKS SIGHTED
15	N	15	68
WE7955	S		45
911	N	20	0
WE7613	S		0
23/128	E	10	8
WE7534	W		37
23	N	9	8
WE7529	S		8
914	N	24	6
XD3332	S		18
92	N	20	5
XC8378	S		1
922	N	29	7
XC9093	S		17
924	N	13	17
XC8356	S		38
96	N	25	20
XC9750	S		17
96	N	11	15
YB2668	S		0
110	E	27	24
YB0725	W		40
110	E	10	11
XB9620	W		41
110	E	13	10
YB2737	W		6

FIGURE 9

TIGER HOUND WATERCRAFT SIGHTINGS

Period	VR	RWT	TOTAL
4-10 May	26	0	26
11-17 May	67	7	74
18-24 May	41	3	44
25-31 May	15	209	224
1-7 June	27	154	181
8-14 June	169	60	229
15-21 June	14		

NOTE: A total of 145 watercraft (4 destroyed, 10 damaged) had been sighted by ground observers from the night of 6 June to month's end, traveling both North and South on the Xe Kong. The watercraft sighted consisted of rafts, barges, pirouges, rubber rafts and 30-ft. cargo craft. Their reported cargo included troops, and wooden boxes. The highest sighting was on 7 June, when 60 boats were observed traveling south, loaded with green wooden boxes and manned by men in green uniforms.

FIGURE 10

that area and the resultant shift in emphasis to Route Package I in North Vietnam. USAF T-28s and F-4s provided more than half of this effort in the two sectors. With typically bad weather continuing throughout the month, COMBAT SKYSPOT missions were used extensively which, as usual, limited BDA and reports of mission results.

From the start of the rainy season, ground observers on the Se Kong River reported sighting increasing numbers of enemy craft, principally pirogues and some rubber boats. Although this river appeared to have numerous hazards to navigation, reports indicated the enemy depended upon this waterway to support and reinforce his elements, not only during the rainy season but also, perhaps to a lesser degree, during the entire year. Of interest were reports of large numbers of POL barrels floating down the Se Kong between Ban Bac and the intersection of the river with Route 964. The enemy reportedly had a net and cable arrangement in the Route 964 area, which snared the drums and permitted them to be removed from the river. 23/

Air presence in the STEEL TIGER area continued a downward trend, with an August total of 810 attack sorties. As in previous months, the majority of attacks occurred in "E" and "F" Sectors, which included the major enemy LOCs of Routes 12, 23, 92, 912, and 922. F-4s and T-28s spearheaded the STEEL TIGER effort, providing 451 attack sorties. A-26 operations, oriented exclusively to the night role, totaled 112 attack sorties. Of 29 vehicles destroyed and damaged, T-28s claimed 12, with 165 attack sorties.

Significant BDA for the month is shown below: 24/

	Total Sorties	(Nite)	Vehc	Bldgs	Road Cuts	AA Site	Sec Expl
USAF	810	(326)	29	37	65	8	140
USN	0	0	0	0	0	0	0
USMC	2	0	0	0	0	0	0

REPORTED RESULTS OF TIGER HOUND OPERATIONS

	SORTIES		STRUCTURES		BRIDGES		WATERCRAFT		GUN POSNS		TRUCKS		ROAD	SECNDRY
	Strk	FAC	Des	Dmg	Des	Dmg	Des	Dmg	Des	Dmg	Des	Dmg	CUTS	EXPLSNS
29 Dec-4 Jan	210	58	0	0	3	0	0	1	1	0	2	2	11	9
6 Jan-2 Feb	2243	278	33	32	3	4	0	0	20	4	55	16	297	370
3 Feb-1 Mar	2739	366	87	41	1	0	7	5	13	13	26	23	313	886
2 Mar-30 Mar	2437	436	98	11	1	1	16	4	22	10	22	18	331	916
31 Mar-4 May	3021	507	232	84	0	0	4	9	31	1	54	6	261	1879
5 May-31 May	1203	601	159	31	6	4	24	11	5	2	16	5	255	662
1 Jun-28 Jun	687	510	182	17	2	0	12	19	2	0	18	1	72	477
29 Jun-3 Aug	858	397	104	23	2	2	12	34	5	0	8	2	42	255
4 Aug-31 Aug	537	314	33	4	2	1	0	0	4	0	11	0	42	130

FIGURE 11

CHAPTER V

SPECIAL OPERATIONS

ARC LIGHT

As 1967 began, the ARC LIGHT program in Laos was still being restricted from overflight of Laotian territory. This was later changed in December 1967 to allow day and night overflight south of 18° north, avoiding Thankhek, Savannakhet, Saravane, Pakse, and Attopeu by a minimum of 20 nautical miles. 1/

Late BDA resulted from the delay inherent in ground follow-up. In partial recognition of the problem, COMUSMACV explained that a particular ground follow-up depended upon a variety of factors. When a strike was used as a fire-support measure, the ground scheme of maneuver had not always permitted passage of troops through the strike area. In other instances, planned ground follow-up had to be cancelled for tactical or other cogent reasons. It was pointed out that a deliberate search of a strike area was a time-consuming process and required a considerable number of troops. Notwithstanding, COMUSMACV emphasized to unit commanders that maximum follow-up of ARC LIGHT strikes would be accomplished. Every feasible step was to be taken to obtain necessary information and provide it promptly to all concerned. 2/

In line with his assurance of improved ground follow-up reporting procedures to higher headquarters, COMUSMACV submitted consolidated reports for January and February. Some January statistics revealed: 69 ARC LIGHT strikes, 609 aircraft sorties in the RVN (two just north of the provisional

military demarcation line (PMDL) and seven immediately to the south, yet within the DMZ), three in Quang Tin Province, four in Quang Tri Province, four in support of PRAIRIE operations and one special mission to "test techniques and conditions required to destroy areas of forest or jungle growth by fire". Though coverage of strikes was incomplete, impressive figures were reported of bunkers, trenches, tunnels, roads, foxholes, structures, and base camps destroyed. Strike results obtained through visual reconnaissance by forward air controllers (FACs) were limited, not only by poor weather conditions, but also by density of the jungle canopy and, in some cases, enemy groundfire. 3/

February statistics included: 85 strikes, 652 aircraft sorties, one strike north of the PMDL, 23 strikes in I CTZ, 30 in II CTZ, 30 in III CTZ, and one in IV CTZ. Of the targets, 66 had been nominated by U.S. field commanders, three by ARVN, two by the 1st Australian Task Force, and 14 by MACJ2. The northern DMZ strike was against bivouac areas, infiltration routes and storage areas, whereas the IV CTZ strike in An Xuyen Province was against a sea infiltration transshipment point, a VC financial center, and a VC Coast Guard battalion. 4/

CINCPAC felt that Laotian operations could be buttressed by application of ARC LIGHT operations along LOCs, in view of the delay in resuming air operations in NVN after the holiday standdown, and the existence of extensive truck movement south of Mu Gia Pass. By 4 March, a seven-day test program of concentrated air attacks was initiated against six special route interdiction points, to include B-52s. AMEMB, Vientiane, agreed to a

three-day extension of this special program, but protested its interruption of special intelligence gathering operations. CINCPAC pressed for a nine-day continuation (ending 20 March), as the longer period would permit observation of enemy efforts to accommodate and circumvent interdiction. Rebuttal on the part of AMEMB, Vientiane, favoring termination on 14 March, held that "MACV's conclusion that results are overall 'excellent' seems to us to be based on very limited intelligence... Merely because we happen to have the planes and bombs available seems to us no reason to keep hitting the interdiction points at the expense of ground evaluation." 5/

Of significance in the ARC LIGHT program for March was initiation of the interdiction program, which involved repeated bombing of enemy LOCs at random times. After launching 151 strikes in this program, it was felt that B-52 strikes against key choke points along major Laotian LOCs appeared to offer significant potential as an integral part of the overall effort to counter enemy infiltration through Route Package I, as well as through Laos. Indicative of the strike effectiveness were the enemy's intensive efforts to improve his LOC defenses (i.e., recent deployment of searchlights near B-52 targets, increase in enemy antiaircraft fire), and the fact that weekly truck sightings in the TIGER HOUND area dropped during March to one-third of what they had been the previous month. COMUSMACV's report suggested that B-52s, in conjunction with tactical airstrikes, might be even more effective than analysis had indicated. 6/ It was also believed that diversion of traffic from the main LOCs to alternate routes could form a predictable pattern where night strike aircraft could locate and destroy vehicles at carefully selected LOC intersection points. 7/

The ARC LIGHT program continued to show an increase in missions during March, with 100 missions (including 591 sorties) flown on in-country strikes and 90 missions (including 217 sorties) flown on out-of-country strikes. Although 48 percent of the total were against out-of-country targets, the support provided to tactical units in Vietnam was not reduced. 8/

A total of 162 secondary explosions were reported by ARC LIGHT crews during March. Ground follow-up and visual reconnaissance elements discovered destroyed or damaged enemy fortifications, supply points, and base camps in many of the target areas. ARC LIGHT strikes against the enemy in his jungle redoubt continued to be an effective way to assail "safe havens" for enemy activity: 9/

> *"Available VR, photo and SLAR of STEEL TIGER area pertinent to ARC LIGHT interdiction program reveals contribution of the B-52.*
>
> *"Coordination with TACAIR strikes and maximum presence appears to have restricted LOC utilization by enemy and caused considerable diversion to alternate routes. Although weather prevented the optimum look we desired during the last week, and analysis is continuing, believe the total operation has reduced the flow of supplies. In summary, we see considerable potential in the continued application of ARC LIGHT to the STEEL TIGER/TIGER HOUND interdiction and harassment campaign."*

During April, there were two ARC LIGHT strikes in the DMZ north of the provisional military demarcation line, and 55 strikes within the I Corps. BDA was limited due to poor weather and other usual factors. The following report, however, was of special significance: 10/

"A visual reconnaissance report on a dual ARC LIGHT strike in Quang Tin Province conducted in April 1967 revealed the following: Ninety percent of the ordnance was on target, with 75 percent target coverage. Effectiveness evaluation included 44 structures destroyed and 36 damaged. An unknown number of trenches and AA positions were destroyed. One tunnel system was uncovered. Most of the vegetation was leveled. Fresh footprints were observed in numerous bomb craters."

The evidence of fresh footprints, after the bomb bursts, with "most of the vegetation...leveled" presented an excellent potential target for follow-up tactical airstrikes as soon as possible, while the enemy was still in the area.

The B-52 force flew 27 sorties in the DMZ during May 1967. Reports of the effects of these strikes again contained little information and, in many instances, only the bomb crater count in the target area was reported.

During the month of June, there were 45 ARC LIGHT strikes in I CTZ. Except for BDA from photos (with crater counts), reports of B-52 results continued to be spotty and contained little quantifying data to give results which could be reliably tabulated.

In a few areas, however, favorable comments on effects of the B-52 strikes were noted and included in ground follow-up reports. These were examples of such comments: 11/

"Strike Juliet 49, Quick Run 53 (Phuoc Long), 2345H, 17 June 1967: The response to this request was excellent and the strike most certainly had a demoralizing effect on the VC in the area. A critical area of immediate

threat to friendly forces was effectively opened by this strike.

"Strike Juliet 100, Phuoc Long 41, 0430H, 12 June 1967: The following comment by the 1st Infantry Division is forwarded for your information: 'This strike opened up high threat area in war zone. Command destroyed approximately 50 percent of battalion size base camp. This tremendous mass of airpower effectively assisted the infantry in the conduct of search-and-destroy operations and the subsequent kill of 60 VC.'"

Other ground follow-up reports did mention a strong odor of decayed flesh, suggesting that some large animals or, possibly, humans had been killed by B-52s, TAC air, artillery, or other "firepower" in the target area.

Because of intense rocket and artillery attacks launched from the DMZ areas against USMC forces, B-52 ARC LIGHT forces flew a very effective strike on 13 July, even though the SAM threat remained high. During August, the enemy mortar, rocket, and across-the-DMZ artillery attacks continued, but the frequency and intensity of these attacks decreased as a direct result of tactical air and B-52 bombings of enemy firing positions.

The closing months (July-August) of this reporting period were indicative of the intensity of the ARC LIGHT program. During July, within the DMZ itself, 30 sorties were flown; just to the south, but in close proximity to the DMZ, 33 additional sorties were recorded. Again, restricting the reporting to the DMZ area, 126 additional sorties were flown in South Vietnam and 145 in Laos. August tabulations showed 117 sorties flown north of the provisional military demarcation line (PMDL), 184 south of the PMDL, and 76 additional sorties in the immediate DMZ area. 12/

ARC LIGHT STRIKES IN TALLY HO/TIGER HOUND -- 1967

Period	TALLY HO	TIGER HOUND
12-18 Jan	2	2
19-25 Jan	1	2
26 Jan - 1 Feb	0	2
2-8 Feb	1	1
9-15 Feb	0	1
16-22 Feb	0	3
23 Feb-1 Mar	0	5
2-8 Mar	0	9
9-15 Mar	0	8
16-22 Mar	0	2
23-29 Mar	0	5
30 Mar-5 Apr	0	4
6-12 Apr	0	7
13-19 Apr	0	9
20-26 Apr	5	3
27 Apr-4 May	0	5
4-10 May	3	0
11-17 May	0	3
18-24 May	0	1
25-31 May	0	0
1-7 Jun	0	4
8-14 Jun	0	3
15-21 Jun	0	6
22-28 Jun	0	5
29 Jun-5 Jul	0	6
7-13 Jul	0	5
14-20 Jul	3	6
21-27 Jul	0	5
28 Jul-3 Aug	0	4
4-10 Aug	0	6
11-17 Aug	6	4
18-24 Aug	7	4
25-31 Aug	9	0
TOTALS	37	130

FIGURE 12

Withdrawn in May (CS-11985) comes MACV to CINCPAC 16/05182 SEP 66 Says ? Re ordered Air mov staff 6 create SLAM, no mention of Depcomusmacv for Air

SLAM Operations

The SLAM concept of employment of air assets originated in August 1966, from a suggestion by DEPCOMUSMACV for Air. The original concept was designated GRAND SLAM and called for use of air assets from USAF, USN, and USMC, plus artillery and naval gun fire (NGF) in the area of northern Quang Tri Province and the southwest corner of the DMZ against the 324th NVA Division. When changing circumstances obviated the necessity for the inception of GRAND SLAM, a series of SLAM operations was initiated in Laos, mostly oriented toward interdiction of activity along Route 110 in the Southern Panhandle. Generated by MACV, the SLAM operations were based upon all possible sources of information, indicating that a geographic concentration of air effort, in a designated time frame, could maximize beneficial results in interdiction. The normal sequence for SLAM operations was as follows: 13/

1. ARC LIGHT strikes;
2. Tactical air for three to five days;
3. PRAIRIE FIRE teams;
4. PSYWAR leaflets.

The SLAM code name was expressed acrostically in its mission statement: 14

Seeking throughout the Panhandle for enemy concentrations...

Locating specific enemy targets and focusing reconnaissance agencies on the specific area...
Annihilation of enemy forces, equipment, and installations in the target area...
Monitoring afterward to insure complete annihilation and denial of further enemy use....

ARC LIGHT forces might or might not be employed, but were usually considered for the role of triggering the operation, while PRAIRIE forces

were to assume the role of ground bomb damage assessment (BDA) and assist in the selection of lucrative targets for tactical air. SLAM I was initiated on 7 October 1966; SLAM II on 12 October 1966.[15/]

On 27 January 1967, COMUSMACV, in a recommendation to CINCPAC, stated that the area surrounding the ARC LIGHT target "Kontum 502" contained "all the ingredients to validate an area as SLAM", and nominated SLAM III. The nomination was based on a major storage area. Further, ARC LIGHT and TAC airstrikes had produced 10 or 12 secondary explosions within a 48-hour period; the terrain favored attack because of the difficulty of moving troops and supplies; and the weather was favorable for continued attack. CINCPAC forwarded his approval to the JCS, with the added comment that the target was "most extraordinary and a golden opportunity rarely presented to inflict severe damage to the enemy."[16/]

Seventh Air Force employed the TIGER HOUND operational plan, programming all nighttime coverage by strike aircraft on 30 January and, on 31 January projected 110 daylight sorties, plus 22 night sorties between the hours of 1900H and 0645H. Reconnaissance aircraft were scheduled for both pre- and post-strike coverage, as well as continuous ABCCC operation. PRAIRIE teams were to enter the target area to "locate and pinpoint targets for follow-on tactical airstrikes" after two additional 15-aircraft ARC LIGHT strikes were executed on 30-31 January. In COMUSMACV's estimation, SLAM III revealed that "the single, most important lesson is that delayed reaction times stemming from the complex request and approval procedures detracted from attainment of optimum results." On the other hand, he was encouraged that

"SLAM III...validated this technique for disrupting the flow of men and material on the infiltration trails of southern Laos". 17/

On 13 March, SLAM III was terminated, but continued ground surveillance of the area indicated the enemy was well-trained, highly disciplined, and armed with modern weapons; his action in defense of the SLAM III area had been tenacious--therefore, SLAM IV was initiated on 9 April. During the interim, 23 March - 4 April, a total of 110 tactical airstrikes had produced an estimated 188 enemy killed by air (KBA). Employing PRAIRIE FIRE forces, B-52s, and tactical air, SLAM IV operations led COMUSMACV to conclude that an extension of the SLAM concept was required against enemy activity. The enlarged concept for a reinforced SLAM operation would bear the nickname "SOUTHPAW", and was to be manned by a reinforced ARVN airborne or Ranger battalion with U.S. advisors. The effort would be focused on a suitable area of operations (AO) in the TIGER HOUND special operating area. Assisting the SOUTHPAW operations would be PRAIRIE FIRE units, helicopter lift assets, helicopter gunships and TIGER HOUND/TALLY HO resources performing blocking, search-and-destroy, or raid operations against selected targets. COMUSMACV pointed out that the ground task force would be dependent upon airpower for support and protection, with B-52 and tactical air assets committed as necessary. While considering SOUTHPAW (which COMUSMACV wished to initiate as soon as possible) as a Phase I augmentation, a Phase II augmentation (nicknamed "HIGH PORT") was proposed for employing larger RVN forces in sustained operations against enemy forces in Laos. For planning purposes, a tentative date of 1 January 1968 was established, with the concept of employing an

elite RVN division-sized force against enemy Base Area 609, opposite Dak To. The commander, staff, and troops would be selected from the highest caliber RVN resources; the operation would be supported by U.S. tactical air, B-52s, and 175-mm artillery. Route 512 would be upgraded and extended from Dak To to the Laotian border; necessary construction would include a C-130 airfield, a logistics base and a CIDG camp. Phase II would be an RVN-controlled operation, and COMUSMACV considered it a logical follow-on to current operations and Phase I. 18/

During the period of 5 March through 8 April, 341 sorties were flown in preparation for SLAM IV. The results of these sorties were one truck destroyed, four damaged, two road cuts, seven secondary explosions (41 smaller secondary explosions from POL drums), and 25 KBA.

SLAM IV was initiated on 9 April and terminated on 5 June 1967, with 32 ARC LIGHT and 499 strike sorties having been flown. Results were as follows: 19/

138 secondary explosions;
34 secondary fires;
40 confirmed KBA (75-100 estimated);
12 structures destroyed;
5 structures damaged;
7 AW positions destroyed;
2 bulldozers destroyed;
7 trucks destroyed;
42 road cuts;
16 crates of supplies destroyed;
1 landslide;
1 bridge damaged;
1 ford damaged.

Commencing on 17 June, the results of SLAM V (through 16 August) were

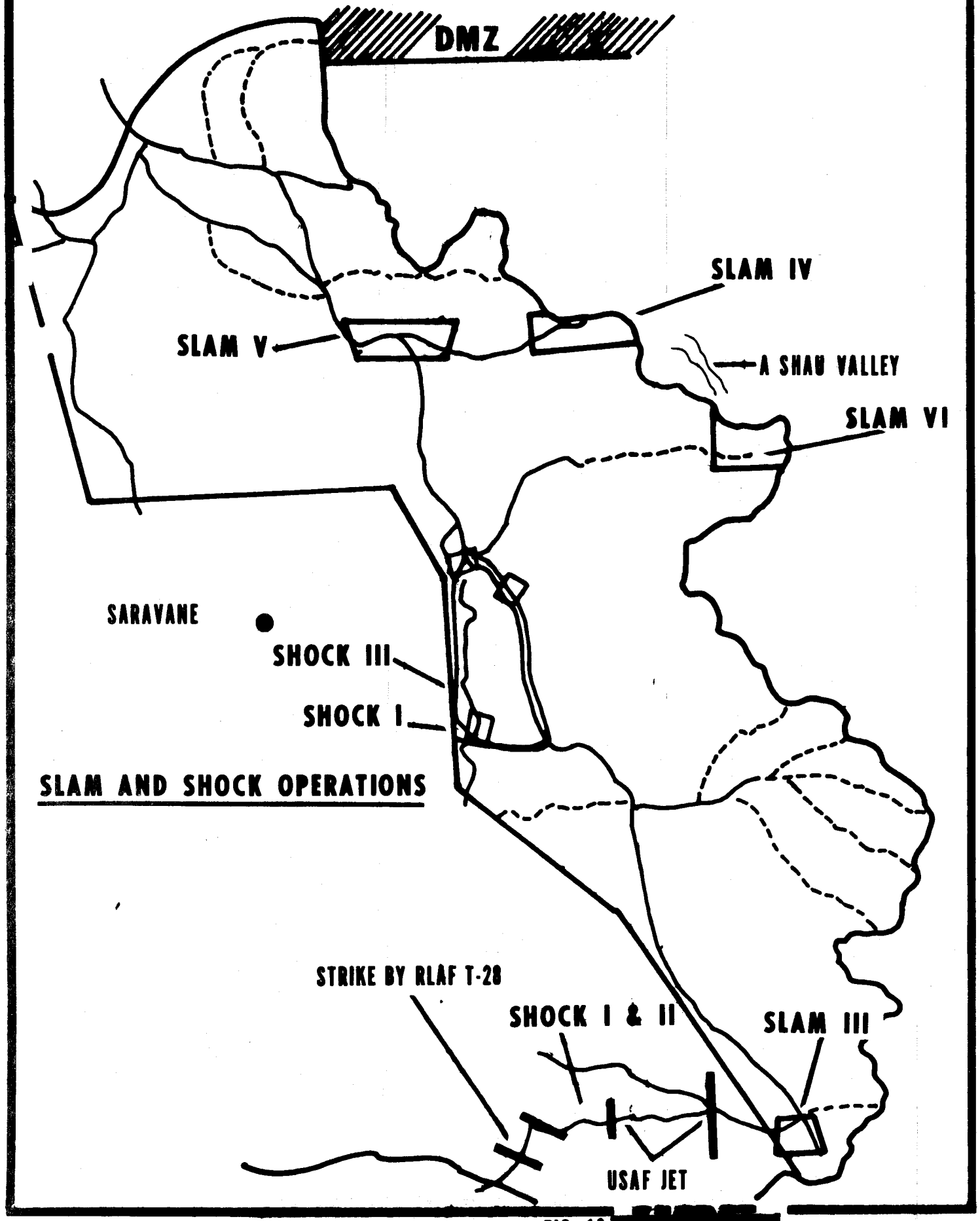


FIG. 13 [redacted]

two secondary explosions, three secondary fires, five KBA, two road cuts, two trucks destroyed, and one structure destroyed. 20/

On 31 July, COMUSMACV sent messages to CINCPAC and the AMEMB, Vientiane, requesting concurrence in the conduct of a SLAM VI operation to start on 4 August 1967. On 1 August, AMEMB, Vientiane, concurred.

During June and July, 15 tactical strikes were conducted in preparation for the proposed SLAM VI operation, producing 38 secondary fires and explosions. PRAIRIE FIRE teams entering the area made contact with enemy screening and blocking teams. The area contained eight troop concentrations, numerous heavily-used trail networks, storage and bivouac areas, landing docks, and way-stations. There were also 12 small arms and automatic weapons gun positions. Photo prep missions revealed no structures, shrines, or monuments in the proposed area which might preclude strikes in accordance with the current "rules".

To facilitate strikes by nine-aircraft ARC LIGHT missions, the SLAM VI area was divided into one by three-kilometer grid rectangles. Cover strikes were planned concurrently in South Vietnam, with emphasis placed on employment of air attack rather than PRAIRIE forces in the operation.

Seventh Air Force was responsible for control of SLAM VI; follow up of ARC LIGHT strikes with tactical airstrikes (weather permitting), was to include damage assessment reconnaissance; continued tactical air effort to complete neutralization of the area; coordination with MACSOG for timing, troop safety, and support of exploitation forces; and forwarding of daily

reports of tactical air activities, including sorties flown, ordnance expended, and results obtained.[21/]

Shock Operations

Originated by AMEMB, Vientiane, SHOCK operations were more closely associated with employment of air assets. ARC LIGHT strikes were not precluded from a SHOCK operation, but, in general, the time frame of these operations was of shorter duration, thus making them more dependent upon tactical air employment. RLAF and CAS forces play a major role in SHOCK operations. Coordination was chiefly between 7AF and AMEMB, Vientiane, since their assets were employed. Similar to SLAM, a SHOCK operation was to be a continuous effort throughout each hour of a stipulated time period, and COMBAT SKYSPOT, plus FAC facilities, were utilized--the former for nighttime and all-weather capability; the latter in an attempt to utilize VR direction of tactical air to the greatest possible extent.

An example of the flexibility and capability of the air effort to respond readily to requests for airstrikes was exemplified during the latter part of April. AMEMB, Vientiane, requested an additional 30 sorties per day for four days, to be employed against confirmed targets along Route 110 in Laos. Seventeen hours later, 7AF responded: "...prepared to allocate the required sorties. We will back up the strike effort with intensified photo reconnaissance to uncover additional target areas...look forward to some good hunting." AMEMB, Vientiane, CINCPAC, COMUSMACV, and 7AF had all participated in confirmation of this required expenditure of air effort:[22/]

> *"This operation is intended to destroy accumulated stocks of military supplies; to disrupt the enemy lines of communication through the area; and to destroy enemy vehicles, equipment and defensive positions throughout the operational area. The area is of special importance to the enemy in that it is the only route for movement of supplies from Cambodia into northern provinces of SVN. A consistently high level of activity has been noted in this area for several weeks."*

Between 27 and 30 April 1967, USAF aircraft flew 164 sorties, night and day, against targets along Route 110 in Operation SHOCK I. Their purpose was to destroy accumulated stocks of military supplies, disrupt enemy lines of communication, destroy enemy vehicles and equipment, and destroy some of the 73 known automatic weapons (AW) positions along the route. The selection of the targets was based on photographic studies of the route and information received from Road Watch Teams.

Operation SHOCK I received a "successful" designation by USAIRA, Vientiane, on 7 May. During the operation, a total of 119 day and 34 night missions had been executed. The success of SHOCK I was predicated upon 11 indices but, overall, it was believed that "secondary explosions alone clearly support conclusion that operation's primary objective was effectively accomplished." Nevertheless, the possibility existed that more lucrative results would have been achieved, if the operation had been extended to an eight or ten-day period. Furthermore, experience gained indicated that defoliation was of utmost importance to a visual reconnaissance program and in establishing target identification and significance.

The conclusion was that a SHOCK II operation, encompassing the eastern

portion of Route 110 was appropriate. In conjunction with the possibility of a SHOCK II operation, COMUSMACV requested a change in the bombing rules as applied to the Cambodian border. He felt that the then current policy precluding airstrikes closer than five kilometers was too restrictive in view of the increased activity along Route 110, from Cambodia through Southern Laos into the RVN. Employing FAC-controlled strikes, COMUSMACV proposed the delivery of ordnance right up to the Cambodian border. 23/

Route 110 supported a moderate level of Laos truck traffic prior to SHOCK II but, since that operation, all traffic on Route 110 had apparently stopped. According to the Deputy Commander, 7AF/13AF, strategically placed interdictions would probably keep the route closed for a prolonged period of time during the rainy season. 24/

SHOCK III, with 85 USAF and 63 RLAF sorties flown between 30 June and 4 July 1967, resulted in 14 structures destroyed and 10 damaged; 9 boats destroyed and 21 damaged; one bunker destroyed and three damaged; four secondary explosions; 22 secondary fires; three KBA; one bridge destroyed; and seven road cuts. 25/

Defoliation

The year 1966 ended with a huge shortfall existing for predicted herbicide requirements in FY 68. In an attempt to resolve the shortage problem, or to propose acceptable alternatives, JCS, during the first week of the year requested CINCPAC to revalidate COMUSMACV's herbicide requirements in light of the fact that "this requirement is far in excess of current production capability of the U.S. and will require a major production plant

expansion program." 26/

Detailed rationale to be forwarded to DOD included aircraft utilization rates, length of sorties, gallons dispensed per sortie, acreage to be defoliated, gallons per acre to be effective, frequency of reinforcing sorties, estimated monthly consumption rate for the remainder of FY 67, assets on hand, stockage objectives, and experience factors. COMUSMACV had already indicated, on 14 December 1966, that requirements were 6.44 million gallons for FY 67 and 11.9 million gallons for FY 68, and had previously provided the JCS information that 17 aircraft were to be available on 1 January 1967, increasing to 24 by 1 July. Noting that MACV had no plans to use Thai-based aircraft for defoliation, COMUSMACV restated the original requirements and the probable results, if they were not met: 27/

> *"The magnitude of the projected shortages will delay the defoliation of many highly important targets. Only those targets which urgently are required to support planned military operations can be accomplished. Infiltration routes into and within SVN cannot be defoliated in a timely manner. This will increase the exposure of ground and air elements to hostile fire by permitting the enemy to operate from concealed havens and ambush sites. Agent will not be available for any experimental project. Targets developed to improve and maintain security along LOCs cannot be sprayed at the time requested. The time between reinforcement sorties will be extended, reducing the effectiveness of previously treated areas."*

As early as October 1966, COMUSMACV had requested permission to defoliate the northern sector of the DMZ and adjacent infiltration routes in NVN. This suggestion received JCS support to SECDEF on 10 November 1966.

The response, late in the month, was that only southern DMZ defoliation projects were authorized and that the northern projects must await the evaluation of the military and political results evolving from the approved program. Utilizing input data from JCS and SECDEF, the decision to approve the deferred defoliation project was to be made by SECSTATE. The consequence of this involved search for approval to defoliate was that MACV would conduct the qualitative assessment of the southern DMZ defoliation operation.

By 27 March 1967, COMUSMACV had updated the assessment reports to that point in time, but approval of SECSTATE still required reaffirmation of the military need for the northern DMZ defoliation. Assessment of the political implications of such an operation by JCS included a comment that "defoliation in the approved area has not generated unusual U.S. or foreign press interest, nothing indicates unmanageable Hanoi objections, there is no indication of undue ICC concern, congressional complaints have not materialized, and more important military operations, such as 175-mm artillery firing north of the DMZ, has deflected notice from relatively less interesting matters, such as a little garden spray." It was suggested that now was the opportune time to resubmit a routine request for defoliation in the northern DMZ area. 28/

During June, CINCPAC authorized defoliation of narrow strips along identified infiltration routes in the northern portion of the DMZ. This defoliation effort was concentrated to deny the Viet Cong his concealed base camps, supply dumps, ordnance factories, and other installations. The increasing number of hits sustained by defoliation aircraft, as well as the VC relocating after defoliation raids, were indicative of the effectiveness of the effort. 29/

NOTE: MICROFILMED DOCUMENTS NOT READABLE ALSO ONLY 61 DOCUMENTS WERE MICROFILMED

FOOTNOTES

FOREWORD

1. (C) Report, Hq PACAF, "Commando Wasp", undated.

CHAPTER I

1. (TS) Msg, CINCPAC to JCS, 26 Oct 66.

2. Ibid.

3. (S) Special Report, USARPAC #450, NVA OB, 1 May 67.

4. Ibid.

5. (TS) History, USMACV Command, 1966.

6. Ibid.

7. (TS) Msg, CJCS to CINCPAC, 242039Z Jan 67.
(TS) Msg, CJCS to CINCPAC, 230308Z Jan 67.

8. (TS) Report, CHECO, subj: TALLY HO, 20 Jul-28 Aug 66, pub 15 Sep 66.

CHAPTER II

1. (TS) History, USMACV Command, 1966.

2. (S) Summary, Hq 7AF, Weekly Air Intelligence, 9 Jan 67. (Hereafter referred to as WAIS.)

3. (C) Interview, Maj. R. M. Neeley, 366TFW, Da Nang SVN, 16 Aug 67.

4. (S) WAIS, Jan 67.

5. (S) Moneval, MACJ-341, Jan 67.

6. (S) Msg, COMUSMACV to 7AF, 121151Z Feb 67.
(S) Msg, CINCPAC to CINCPACAF, 282153Z Dec 66.

7. (TS) Msg, 7AF to CINCPACAF, 110625Z Feb 67.

8. (S) Rpt, Hq PACAF, DCS/I, subj: Effects of Air Operations SEA, Mar 67. (Hereafter referred to as EAO SEA.)

9. (S) WAIS, 19 Feb 67.

10. (S) Msg, CINCPACAF to CINCSAC, 110012Z Feb 67.
(S) Msg, CINCPAC to CINCPACAF, 252106Z Feb 67.
(S) Msg, CINCPAC to CINCSAC, 262205Z Feb 67.

11. (S) WAIS, 25 Feb 67.

12. (TS) EAO SEA, Mar 67.

13. Ibid.

14. (S) WAIS, Mar 67.

15. (S) Moneval, MACJ-3, Mar 67.

16. (S) EAO SEA, Apr 67.

17. (TS) Msg, CINCPAC, DTC, 292341Z Apr 67.

18. (TS) ELINT Summary, Hq 7AF, 10 May 67.

19. (S) WAIS, 7 May 67.

20. (S) Intelligence Summary, COMUSMACV, 10 May 67.

21. Ibid.

22. (TS) ELINT Summary, Hq 7AF, 24 May 67.

23. (S) Msg, CG 1st MAW to COMUSMACV, #1935, 10 May 67.
(S) Msg, COMUSMACV to DD Spec Rep, #374, 22 May 67.

24. (TS) Summary, Hq PACAF, DTE, subj: Air Operations SEA, May 67.

25. (S) Msg, CINCPACAF to CINCPAC, 172340Z Jun 67.

26. (S) Msg, CINCPACAF to CINCPAC, 090500Z Jun 67.
(S) Msg, CINCPACAF to CINCPAC, 040050Z Jun 67.
(S) Msg, CINCPACAF to CINCPAC, 070512Z Jun 67.

27. (C) Interview, Maj R. M. Neeley, 366TFW, Da Nang SVN, 16 Aug 67.

28. (S) SAM Summary, Hq 7AF, WAIS, Jul 67.

29. (S) WAIS, July 67.

30. Ibid.

31. (C) Interview, Maj R. M. Neeley, 366TFW, Da Nang SVN, 16 Aug 67.

32. (S) Ltr, Hq 7AF, DCS/I to MACV, subj: Intelligence Report, 25 Jul 67.

33. (S) Perintrep, USMACV, Aug 67.

34. (S) WAIS, 2 Sep 67.

CHAPTER III

1. (S) EAO SEA, Jan 67.

2. (S) Weekly Report, U.S. Mission, AMEMB Saigon, 26 Feb-4 Mar 67.

3. (S) EAO SEA, Feb 67.

4. (S) WAIS, 12 Mar 67.
(S) Weekly Report, U.S. Mission, AMEMB Saigon, 5-11 Mar 67.

5. (S) Weekly Report, U.S. Mission, AMEMB Saigon, 12-18 Mar 67.
(S) WAIS, 19 Mar 67.

6. (S) EAO SEA, Mar 67.

7. (S) Weekly Report, U.S. Mission, AMEMB Saigon, 19-25 Mar 67.

8. (S) Moneval, MACV, Apr 67.

9. (S) EAO SEA, May 67.

10. Ibid.

11. (S) Perintrep, USMACV, May 67.

12. (S) EAO SEA, Jun 67.

13. (S) Intsum, MACV, No. 190-67.

14. (S) EAO SEA, Jun 67.

15. (S) Ltr, M/Gen G. F. Blood, Hq 7AF Ops to B/Gen J. R. Chaisson, MACCOC, 26 Sep 67.

16. (S) Stat File, Hq 7AF DCS/I, as of 6 Dec 67.

17. (S) Briefing, Lt Col R. P. Halpenny, Asst Chief TACT, Hq 7AF, 26 Sep 67.

18. (S) WAIS, 2 Sep 67.

CHAPTER IV

1. (TS) Pub, Hq PACAF, DTE, subj: Air Ops SEA, Jan 67.
   (S) EAO SEA, Jan 67.

2. (S) WAIS, 16 Jan 67.

3. (S) Moneval, MACV, Jan 67.

4. (TS) Msg, AIRA Vientiane to 7AF, 021040Z Mar 67.
   (TS) Msg, 7AF, 040932Z Mar 67.
   (TS) Msg, AIRA Vientiane to 7AF, 060315Z Mar 67.
   (TS) Msg, COMUSMACV to CINCPAC, 071201Z Mar 67.

5. (S) WAIS, 19 Feb 67.

6. (S) Msg, SECDEF to JCS, 022032Z Mar 67.

7. (S) Perintrep, USMACV, Mar 67.

8. (S) Moneval, MACV, Apr 67.

9. (S) WAIS, Apr 67.

10. (C) Interview, Pathet Lao Lt Manivan, Dec 66.

11. (C) Interview, Comdr Khe Sanh SF Camp, Dec 65.

12. (C) Ltr, Hq 7/13AF, subj: Procedures for Opn of Trucks on the Ho Chi Minh Trail, 27 Apr 67.

13. (S) EAO SEA, Mar 67.

14. Ibid.

15. (S) Msg, 7AF, subj: Opn STOPWATCH, 131405Z Mar 67.

16. (TS) Msg, CINCPAC to COMUSMACV, 310138Z Mar 67.
    (TS) Msg AMEMB Vientiane to CINCPAC, 041142Z Apr 67.

17. (TS) Pub, Hq PACAF, DTE, subj: Air Opns SEA, Apr 67.

18. (S) Moneval, MACV, Apr 67.

19. (TS) Pub, Hq PACAF, DTE, subj: Air Ops SEA, Apr 67.

20. (S) EAO SEA, July 67.

21. (S) WAIS, 9 July 67.

22. (S) Extracts, OP-4 File, Hq 7AF, Jun 67.

23. (TS) Pub, Hq PACAF, DTE, subj: Air Opns SEA, July 67.

24. (S) Extracts, OP-4 File, Hq 7AF, Jul 67.

CHAPTER V

1. (TS) History, 7AF, Jan-Jun 67.

2. (S) Msg, COMUSMACV to CINCPAC, 011435Z Jan 67.
(S) Msg, COMUSMACV to NMCC, 050513Z, Jan 67.

3. (S) Msg, COMUSMACV to JCS, subj: ARC LIGHT Strike Results for February, 1967.

4. (S) Msg, AMEMB Vientiane to COMUSMACV, 120430Z Mar 67.
(S) Msg, CINCPAC to COMUSMACV, 121310Z Mar 67.
(S) Msg, AMEMB Vientiane to CINCPAC (Personal to Adm. Sharp), 130558Z Mar 67.

5. (S) Msg, COMUSMACV to JCS, 210155Z Apr 67.

6. (S) EAO SEA, Mar 67.

7. (TS) Moneval, MACJ-3, Mar 67.

8. (S) Msg, COMUSMACV to JCS et al, 311014Z Mar 67.

9. (S) EAO SEA, Apr 67.

10. (S) EAO SEA, Jun 67.

11. Ibid.

12. (S) Rpt, Hq PACAF, DTE, subj: Air Opns SEA, Jul-Aug 67.

13. (TS) Msg, COMUSMACV to 7AF, 060801Z Oct 66.
(TS) Msg, COMUSMACV to AMEMB Vientiane, 110010Z Oct 66.
(TS) Msg, AMEMB Vientiane to COMUSMACV, subj: Draft Plans for Opn SLAM, 27 Oct 66.

14. Ibid.

15. Ibid.

16. (TS) Msg, COMUSMACV to 7AF, 290827Z Jan 67.
(TS) Msg, 7AF to COMUSMACV, 300920Z Jan 67.

17. Ibid.

18. (TS) Msg, COMUSMACV to CINCPAC, 180059Z Apr 67.

19. (S) EAO SEA, Jun 67.

20. (TS) History, 7AF, 1967.

21. (TS) Msg, CINCPAC to COMUSMACV, 220500Z Apr 67.
(TS) Msg, 7AF to AMEMB Vientiane, 220210Z Apr 67.
(TS) Msg, DepCmdr 7/13AF to 7AF, 220925Z Apr 67.

22. (S) Msg, USAIRA Vientiane to 7/13AF, 070705Z May 67.
(TS) Msg, COMUSMACV to USAIRA Vientiane, 060537Z May 67.

23. (S) EAO SEA, May 67.

24. (S) Msg, JCS to CINCPAC, 061846Z Jan 67.

25. (S) Msg, COMUSMACV to JCS, 031159Z Jan 67.

26. (S) Msg, JCS to CINCPAC, 192352Z Dec 66.
(S) Msg, CINCPAC to COMUSMACV, 292041Z Dec 66.
(S) Msg, NMCC to CINCPAC, 051930Z Apr 67.

27. (S) Perintrep, MACV, Jun 67.

28. (S) Special Report, MACV, subj: Defoliation Opns, 27 Mar 67.

29. (S) Msg, CINCPAC to 7AF, 091424Z Jun 67.

GLOSSARY

AAA	Antiaircraft artillery
ABCCC	Airborne Battlefield Command and Control Center
AMEMB	American Embassy
ARVN	Army of Republic of Vietnam
AW	Automatic weapons
BDA	Bomb damage assessment
CAS	Close air support
CBU	Cluster bomb units
CEP	Circular error, probable
CHECO	Contemporary Historical Evaluation of Combat Operations
CHICOM	Chinese Communists
CIDG	Civil Indigenous Defense Group
CINCPAC	Commander-in-Chief, Pacific Forces
CINCPACAF	Commander-in-Chief, Pacific Air Forces
CINCPACFLT	Commander-in-Chief, Pacific Fleet
CINCUSARPAC	Commander-in-Chief, U.S. Army, Pacific
CMEC	Combined Materiel Exploitation Center
COMUSMACV	Commander, U.S. Military Assistance Command, Vietnam
CTZ	Corps Tactical Zone
DMZ	Demilitarized Zone
ECM	Electronic countermeasures
ELINT	Electronic intelligence
EOD	Explosive ordnance disposal
FAC	Forward air controller
FWMAF	Free World Military Assistance Force
FY	Fiscal Year
GVN	Government of (South) Vietnam
JCS	Joint Chiefs of Staff
KBA	Killed by air
KIA	Killed in action
LOC	Line(s) of Communication
MACSOG	Military Assistance Command, Special Operations Group
MACV	Military Assistance Command, Vietnam
MR	Military Region

NGF	Naval gunfire
NVA	North Vietnamese Army
NVN	North Vietnam
PACOM	Pacific Command (U.S. Army)
PECM	Passive electronic countermeasures
PMDL	Provisional Military Demarcation Line (in DMZ)
POL	Petroleum, oil and lubricants
RHAW	Radar homing and warning
RLAF	Royal Laotian Air Force
RP	Route Package (within NVN)
RVN	Republic of (South) Vietnam
SAM	Surface-to-air missile
SECDEF	Secretary of Defense
SECSTATE	Secretary of State
SL	Steel Tiger (operational area in southern Laos)
SLAR	Side-looking airborne radar
SVN	South Vietnam(ese)
TACAIR	Tactical air
TACC	Tactical Air Control Center
Tet	Buddha's Birthday, 8-12 February
TFW	Tactical Fighter Wing
TH	Tiger Hound (operational area within Steel Tiger, Laos)
USAIRA	U.S. Air Attache
VC	Viet Cong
VR	Visual reconnaissance
WBLC	Waterborne logistic craft
WIA	Wounded in action