

forces did compel the enemy to direct the bulk of his logistics effort down Route 914, but he refused to be driven west from the central route structure to the more vulnerable Route 23.* The RVNAF had planned to interdict Route 914, but as it turned out, 914 represented the western extremity of RVNAF probes, and enemy traffic down this vital route was relatively unopposed by ground forces. In addition, the damage which was planned against enemy supplies, equipment, and forces as RVNAF troops withdrew through Base Area 611 never materialized. RVNAF operations penetrated only the northeast tip of Base Area 611.^{284/}

(S) [REDACTED] The incursion was no surprise to the enemy, and he was well prepared to meet it. By early March, the enemy had massed his troops throughout the area, and friendly forces were outnumbered two to one. Despite massive U.S. air support of some of the best units in the RVNAF, the NVA mounted an overwhelming offensive which forced the RVNAF from Laos.

(S) [REDACTED] There was actually no choice concerning RVNAF reinforcement or withdrawal. RVNAF units were in an untenable position and not even heavy air support could have sustained them. Evidence of that statement was provided in the final days of the operation when orderly withdrawal turned to hasty retreat. Major

**Additionally, following the operation, NVA forces in southern Laos drove west into RLG territory adjacent to their western LOC network. However, it was not known with certainty whether their offensive was a result of Lam Son 719, RLG interdiction operations, or both. See pp. 92-93, 110.*

[REDACTED]

RVNAF units were stranded at a number of scattered FSBs. Only by making their way to new extraction locations, and by repeated helicopter extraction attempts in the face of withering fire, were they able to escape. Along Route 9 enemy ambushes blocked the path of a huge ARVN armored task force, and enemy tanks closed in from behind. Fighter strikes scattered the approaching enemy tanks. Needed supplies and equipment were brought in by helicopter enabling the task force to cross the Xepon River and return to SVN. With the help of extensive TAC AIR and helicopter support, the RVNAF units managed to escape the trap set for them during their withdrawal, but not before suffering heavy losses. The RVNAF sustained 45 to 50 percent losses of tanks, artillery and APCs. As discussed later, numerous helicopters were destroyed. ^{285/}

(S) [REDACTED] As a result of Lam Son 719, there was an RVNAF manpower shortage in Military Region I at the end of the first quarter of CY 71. Most RVNAF units which had participated in the operation were at reduced effectiveness, suffering from personnel and equipment shortages. The RVNAF reported nearly 7,400 casualties (1,358 killed, 4,943 wounded, and 1,089 missing). Significantly, there were nearly 500 RVNAF officer casualties during the operation. The RVNAF in Laos did not have an adequate battlefield replacement system, thus limiting the stamina of units which suffered heavy casualties. In contrast, the enemy replacement system worked well and his units continued to fight effectively despite heavy losses. ^{286/}

[REDACTED]

(S) [REDACTED] The Laotian incursion was overly dependent on air support. An over-reliance was placed on helicopters, which were almost the only means of transportation used even for short distances and low priority missions. RVNAF units were unable to keep Route 9 open, and all resupply had to be accomplished by air, further taxing helicopter capabilities. In many cases, helicopters were too vulnerable to enemy fire and could not supply critical South Vietnamese bases. In a large measure this was attributable not only to the environment, but also to the failure of the FSB concept as employed by RVN forces in the operation. As previously noted, the RVNAF formed static FSBs, and though some units were aggressive, actively patrolling from their positions and keeping the enemy at a distance, most units were unaggressive and reluctant to move out from their bases. In addition, the enemy was present in the battlefield in unexpected numbers, and RVNAF armored units were unprepared for the surprising enemy armored strength. The NVA ringed the FSBs and subjected both the bases and incoming helicopters to heavy fire. TAC AIR was unable to locate and destroy the numerous, mobile enemy positions, and in many cases helicopters were either unable to effect resupply, or sustained heavy losses. ^{287/}

(S) [REDACTED] Undoubtedly, heavy damage was inflicted on the enemy's logistics system, and he sustained heavy personnel losses. The extent of those losses, however, was unknown. RVNAF estimations

[REDACTED]

of enemy losses during the operation were highly questionable. For example, the Joint General Staff reported to President Thieu that more than 170,000 tons of enemy ammunition were destroyed during the operation.* That figure was clearly unreasonable. It exceeded the aggregate total of supplies input into Laos from North Vietnam during the COMMANDO HUNT I, III, and V campaigns, which added up to 160,000 tons. Looked at in another way, 170,000 tons was about nine times the estimated enemy throughput during COMMANDO HUNT III, and more than 20 times the throughput estimated for COMMANDO HUNT V. In U.S. reports of enemy losses in the operation, the RVNAF figure was greatly reduced. MACV and 7AF sources estimated that roughly 20,000 tons of enemy ammunition were destroyed. ^{288/}

(S) [REDACTED] The estimate of over 13,600 enemy deaths also deserves scrutiny. If that estimate is to be believed, and assuming that the enemy suffered two wounded for each killed (considerably less than the more than three wounded to one killed for the RVNAF), then total enemy casualties (wounded and killed) would stand at 40,000, or more than the total forces committed by the enemy to Lam Son. Even if the enemy suffered only one wounded for each killed, total enemy casualties would stand at over 27,000, an unrealistic estimate considering the total force of the enemy in the area, and considering the sustained ^{289/} intensity of enemy attacks in the closing days of the operation.

*Half of this figure was attributed to B-52 strikes.

[REDACTED]

(S) [REDACTED] Even using RVNAF reported casualties, results of Lam Son 719 did not necessarily appear favorable. A Tactical Air Command intelligence report made an interesting comparison between Lam Son 719 and the Cambodian incursion a year earlier. The report noted that some estimates placed Lam Son captured weapons, ammunition, and rice at levels far below those attained in the Cambodian incursion. Additionally, reported enemy deaths in Lam Son were comparable to those claimed in Cambodia, while RVNAF losses in Lam Son were much higher than those sustained in the Cambodian incursion.^{290/}

(S) [REDACTED] The true measure of the impact of Lam Son 719 on the enemy was unknown as the operation ended, though it doubtlessly would be reflected by his activities during the 12-18 months following the operation.^{291/} However, one indicator of the immediate impact is provided by the severity of enemy attacks which drove the RVNAF out of Laos in the final days of Lam Son. In a 15 March message to CINCPACAF, before the final enemy offensive had gotten underway, the Commander of 7AF stated: "The full impact on the enemy of Lam Son 719 actions to date is yet to be manifested; much of it will be reflected in his ability to react to friendly actions during the remainder of the operation."^{292/}

b. (S) [REDACTED] (U) Assessment of U.S. Support.

1) (S) [REDACTED] Contributions of U.S. Support. The performance of U.S. Air Force, Navy, and Marine tactical aircrews, Air Force FACs

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and B-52 crews, and Army helicopter crews during Lam Son 719 was especially noteworthy. Taken together, these various forms of U.S. support had a crucial impact on the outcome of the operation.

(S) ~~SECRET~~ The conduct of an operation such as Lam Son 719 into the hostile Laotian environment would have been unthinkable without heavy tactical air support. Time and time again air strikes proved their worth in supporting RVNAF offensive operations, and defending besieged RVNAF positions. Air Force fixed-wing gunships were invaluable. Their appearance on the scene was often enough to cause the enemy to abandon his attacks. Their true value is reflected by the fact that their absence for even a short time during periods of bad weather was sometimes enough for the enemy to overwhelm the ground defenders. Fighter strikes were also critical. The destruction or heavy damage of approximately a hundred enemy tanks during the operation virtually denied the enemy the advantage of his surprising armored strength. Approximately two-thirds of these tanks were destroyed by fighters during the day. (The remainder were destroyed by fixed-wing gunships at night. Army helicopters accounted for an additional five tanks destroyed.) Tactical air strikes against tanks were particularly critical in the last days of the campaign, when the enemy committed large numbers of tanks against the vulnerable RVN forces during their disorderly withdrawal. Additionally, USAF support of helicopter operations was an important factor in preventing already high helicopter losses from going completely out of bounds. B-52

strikes also played a major role in the operation, and on a number of occasions were used in close proximity to ground forces. RVNAF units highly praised these strikes. 293/

(S) [REDACTED] HAMMER FACs were the focal point for TAC AIR support of Lam Son 719. Under extremely difficult circumstances these FACs demonstrated skill in obtaining the maximum effectiveness possible from U.S. air support of the operation. The HAMMERS faced serious air traffic control problems, language barriers, coordination hurdles, and heavy enemy fire in Laos, but nevertheless continued to effectively direct strikes against the enemy. 294/

(S) [REDACTED] U.S. helicopters played a crucial role in Lam Son 719, and were used extensively in insertion, resupply, and extraction operations. Resupply operations turned out to be more extensive than planned. RVNAF units were unable to adequately secure Route 9 for logistics support, and the helicopters were left to bear the entire resupply load. Perhaps their most dramatic contribution occurred in extraction operations in the withdrawal phase during which high helicopter losses were experienced. Had it not been for repeated extraction attempts in the face of heavy enemy fire, a large number of RVNAF would have been stranded in Laos, surrounded by overwhelming forces. 295/

(S) [REDACTED] U.S. ground forces on the South Vietnam side of the border also played an important role. They kept supplies moving along Route 9 to Khe Sanh, though faced with enemy harassment and

[REDACTED]

ambushes. Enemy resistance was not light, as is evidenced by the fact that U.S. forces lost 67 trucks, 76 combat vehicles, and 17 tanks on the South Vietnamese side of the border during their participation in the operation.^{296/}

(S) [REDACTED] U.S. support was planned as an integral element of Lam Son 719. In view of the size and severity of the enemy reaction to the operation, helicopter and tactical air support of the RVNAF became even more critical. Individually, U.S. personnel displayed professionalism and bravery in the face of unexpected problems and fierce enemy resistance, and without their support RVNAF casualties would have increased markedly. Despite its value, however, U.S. support was marred by a number of serious problems which surfaced during the operation. These problems contributed to increased U.S. and RVNAF casualties and, in general, reduced the potential effectiveness of U.S. support of the operation. The problems should be squarely faced and solved, lest they continue to surface in future operations.

2) (S) [REDACTED] (U) Problem Areas.

a) (S) [REDACTED] Coordination of U.S. Support. By far the most serious flaw in the U.S. support provided for Lam Son 719 was that the planning and coordination required in such a joint service and combined nation operation was lacking. The 7AF Commander, General Lucius D. Clay, Jr., noted that during the first month of the operation, "TAC AIR, ARC LIGHT, and helicopter strikes [were] planned in isolation of each other and divorced from the ground scheme of maneuver."^{297/} There was no single control agency for all aircraft

[REDACTED]

entering the operational area, no provision for the effective control and coordination of different types of firepower (TAC AIR, ARC LIGHT, helicopter, and artillery), and no central agency for the assimilation of all the various sources of intelligence.^{298/} Some of these problems were caused by inadequacy in RVNAF command and control capabilities and failure of RVNAF planners to coordinate their operations with U.S. supporting forces. Others, however, were attributable to divergent assessments and organizational viewpoints of the U.S. Armed Services.

(S) **[REDACTED]** As noted earlier, mid-way through the operation General Abrams established a Joint Planning Group (JPG) consisting of high-ranking ARVN, USAF, and U.S. Army representatives who met daily with General Lam. The group served as a means of coordination among U.S. airmobile, artillery, and TAC AIR resources, and also between U.S. and RVNAF operations, providing information and advice to General Lam based on the status and availability of U.S. assets. The JPG resulted in a lessening, but not an elimination, of the coordination problems. Airspace control problems continued as did the need for a combined intelligence agency. Coordination of firepower, though improved in the case of combat assaults, also continued to be a problem in other operations.^{299/}

(S) **[REDACTED]** Coordination with helicopter reconnaissance units was especially difficult since their missions were often scheduled at the last minute. In an attempt to reduce the problem, a

[REDACTED]

USAF tactical air control party was established at 2/17 Cavalry headquarters, and FACs were directed to provide Combat Air Patrol for helicopter operations, when a FAC was available and the helicopter operations were coordinated with the Air Force via the TACP. All that was needed by the Air Force was a departure time for the helicopters. Sometimes the time was provided, other times it was not. ^{300/}

(S) [REDACTED] Despite Air Force willingness to provide support for helicopter operations, teamwork was an elusive goal. One FAC characterized work with helicopters as "disappointingly unproductive," and cited lack of communication/coordination, area congestion, short helicopter on-station times, and high altitudes imposed by the AA threat as the primary reasons. What made the lack of coordination even more frustrating was that when FACs and helicopters did work as a team, they were capable of achieving very good results. In cases where the environment permitted, the helicopter's ability to get down low and spot the targets complemented the ability of TAC AIR to destroy the target once found. Such teamwork was, unfortunately, more often the exception rather than the rule. ^{301/}

(S) [REDACTED] The failure of U.S. forces supporting the operation to work effectively as a team, particularly during the first month of the operation, was a serious and disturbing matter. The situation, though complicated by the joint U.S./RVNAF nature of the operation and the desire to keep planning as secure as possible, was particularly aggravated by the dependence of the operation on helicopters

[REDACTED]

(S) [REDACTED] There was little in the attitudes expressed by many Army personnel after Lam Son 719 to indicate that if another such operation were to be held in the future, there would be any significant change in their concept of airmobile operations, particularly with respect to coordinating TAC AIR support. (This statement applies to all operations with the exception of combat assaults into well defended areas, in which case there seemed to be a general awakening to the value of TAC AIR support.) The coordination problems which surfaced during Lam Son 719, since they reflected basic service attitudes and beliefs concerning the capabilities of organic resources, may be difficult to overcome. Considering the seriousness of their implications, however, they should not be ignored.

b) (S) [REDACTED] Inadequate Planning Prior to the Operation. In an effort to maintain tight security, very few people were involved in the planning for Lam Son. This exclusiveness proved to be a detriment to the operation. Evidence of inadequate planning was abundant during the early days of the operation. In some cases, planning problems were overcome, and did not have a serious impact on the operation. In other cases, however, effects of the poor planning were serious, and sometimes continued throughout the entire operation. ^{304/} One outspoken Army commander commented: ^{305/}

Lam Son 719 was hampered rather than assisted by the high degree of limited access. Staff planning at XXIV Corps level appeared to suffer from inadequate knowledge of ARVN organization,

[REDACTED]

overestimation of U.S. capabilities . . . and underestimation of the enemy's disposition and strength.

(S) [REDACTED] That U.S. planners underestimated the strength of the enemy reaction was clear. Intelligence agencies were surprised by the enemy armored strength that appeared in the combat area, and the Army underestimated the enemy threat against helicopter operations. The unexpected strength of enemy opposition caused changes in RVNAF plans and objectives, and forced greater reliance on U.S. support. ^{306/}
Following the operation, a MACV report acknowledged the problem: ^{307/}

ARVN forces were prepared psychologically and physically for a smaller, swifter, less violent confrontation. Intelligence agencies greatly underestimated the number and type forces that would be encountered in the operational area.

3) (S) [REDACTED] Tactical Air Support and Results.

a) (S) [REDACTED] Overall Results. The shift of air power from interdiction to support of RVNAF forces in Lam Son 719 again demonstrated air power's ability to change roles on short notice and deliver a massive volume of firepower as needed. Between 8 February and 24 March, 8,512 tactical air, 1,358 ARC LIGHT, 1,291 HAMMER FAC, and 2,809 tactical airlift sorties were flown in support of the operation. The majority of sorties in support of Lam Son came from a drawdown of the sorties normally allocated to interdiction in STEEL TIGER, and from a surge effort by the units supporting the operation. ^{308/}

[REDACTED]

(S) [REDACTED] Table 13 contains the BDA reported by aircrews and FACs for strikes in support of Lam Son 719 between 8 February and 31 March. The accuracy of these figures is admittedly open to question. Since the results of many air strikes were unobservable from the air, aircrew reported BDA was generally considered to be an incomplete, conservative representation of the damage inflicted upon the enemy by air strikes. Also, because of the difficulty of eliminating duplicate reporting, damage confirmed by ground forces is not included in the table. ^{309/}

(S) [REDACTED] The number of enemy troops killed or wounded by air strikes is not known, though it is believed to be high. The 2,504 KBA reported by aircrews is not considered to be an accurate figure. Because of the altitude at which they operate, fighter and FAC aircraft normally do not actually see ground troops. The KBA figures reported for Lam Son were generally based on estimates which the ground commander sometimes made and passed to the FAC. These figures were not necessarily body counts, but estimates.

(S) [REDACTED] In comparison to KBA reported by aircrews, RVNAF forces estimated that air strikes accounted for 4,364 KBA. Sweeps made of approximately 55 targets struck by B-52s credited ARC LIGHT strikes with 2,674 of these. Many of these areas had also been struck by tactical air strikes or artillery, and it really was not possible to distribute the casualties among the various causes.

[REDACTED]

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TABLE 13

LAM SON 719 BDA RESULTING FROM AIR STRIKES,
8 FEB - 31 MAR (U)

	<u>Dest/Dmgd</u>	<u>Sec Exp</u>	<u>Sec Fires</u>
AAA	147/20	125	47
ENEMY POSITIONS	777/96	69	30
TRUCKS	2,073/639	1,062	830
WATERCRAFT	0/1	1	2
STORAGE		1,546	166
KEL		952	303
TANKS	99/34	46	25
OTHER*		9,939**	1,171
TOTAL		13,740	2,574
KBA - 2504			
LOC CUTS - 356			

*"OTHER" includes categories such as AMMO, POL, Transshipment Points, etc.

**Includes 2568 secondaries reported by ARC LIGHT. Results for the other categories listed do not include ARC LIGHT BDA.

Source: Report, "Draft of Intelligence Analysis of Lam Son 719 (U),"
7AF, Apr 71, p. 56. (S)

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Also, RVNAF reports for the sweeps made were considered inflated. Overall, however, U.S. intelligence agencies did not feel that the KBA reported by the RVNAF was exorbitant. Considering the large number of strikes which reported no BDA, and the small percentage of target areas which were actually investigated by ground forces, it was felt that any inflation in RVNAF reported KBA was offset by the casualties which went unreported. ^{310/}

(S) **[REDACTED]** Many of the missions flown in support of Lam Son 719 were taken from sorties normally allocated to STEEL TIGER interdiction operations. Therefore, the high BDA achieved in support of the operation was at the expense of reduced BDA throughout the remainder of STEEL TIGER. Overall, however, the aggregate BDA reported throughout STEEL TIGER, including the Lam Son area, was higher during this period than it was before or after the operation. The incursion caused the enemy to concentrate his forces in a small area, thus creating targets vulnerable to air strikes. In addition, surges in sortie rates of supporting units provided more strike assets than normally available. The net effect of Lam Son 719 was increased concentration of enemy resources and increased exploitation of these targets by air strikes. ^{311/}

b) (S) **[REDACTED]** Special Considerations. One of the most important and impressive contributions of tactical air strikes during Lam Son 719 was the virtual destruction of an enemy tank regiment. It was estimated that no less than 120 enemy tanks were committed to the Lam Son 719 area. Statistics indicated that between 8 February

[REDACTED]

and 24 March, 98 tanks were destroyed or damaged by TAC AIR. Ground teams or FACs confirmed 61 of the destroyed tanks. ^{312/}

(S) [REDACTED] Usually tanks appeared without warning and were fleeting targets. As a result, they were struck with the aircraft and ordnance that were immediately available. General purpose bombs and napalm were the ordnance most frequently fragged in support of ground troops, and accordingly were the most common types of ordnance used against enemy armor. Table 14 shows the results of attacks against enemy armor for the various types ordnance used. Laser Guided Bombs (LGBs) were considered to be the most successful ordnance against tanks because of their reliability and safe delivery parameters. Gunships reported considerable success against thin skinned PT-76 tanks, though the criteria for destroyed or damaged tanks may have been somewhat lenient. ^{313/}

(S) [REDACTED] The problem of getting the right ordnance at the right time was not limited to strikes against tanks. For example, LGBs were considered to be the best ordnance for employment against hostile antiaircraft guns. The LGBs offered accuracy, destructive firepower, and safe delivery parameters, but it was not practical to frag such a special purpose ordnance against targets whose location was not known in advance. A partial solution to the problem in the case of AAA targets was the use of a Quick Reaction Force (QRF) loaded with LGBs. The AAA sites were less fleeting than the tank targets, which made the time required to scramble QRF aircraft less critical. Ninety-nine

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TABLE 14

RESULTS OF TAC AIR ATTACKS AGAINST ENEMY TANKS DURING LAM SON 719 (U)
(8 FEB-24 MAR 71)

<u>Ordnance</u>	<u>Attacks</u>	<u>Destroyed</u>	<u>Damaged</u>	<u>SF/E*</u>	<u>RNO**</u>
MK-82 HD/BLU-27	47	10	4	39	6
20MM HEI/API & 7.62MM (AC-119K)	11	10	1	18	
MK-82/CBU-24	24	4	4	11	3
MK-82/MK-20 (ROCKEYE)	22	5	2	1	4
MK-84 LGB	6	5			
MK-82/LAU-10 (ZUNI)	4	4			
MK-82/(NAPALM)	24	7	4	2	2
MK-83/CBU-24	3	2	1		
MK-82	44	3		1	11
BLU-27	6	2			
40MM HEI (AC-130)	28	14	3	3	
CBU-24	4	1		1	
AGM-62A	3				3
NAPALM	1	1			
M-118 LGB	2	2			
MK-82/MK-81	7	4	3	8	
MK-82 HD	2		1		
MK-82/20MM	<u>3</u>	<u>—</u>	<u>1</u>	<u>6</u>	<u>—</u>
TOTALS	241	74	24	90	29

*Secondary fires and explosions.

**Results not observed.

Source: Report, "Lam Son 719, SVN Incursion (U)", 7AF, 24 Mar 71, p. 114. (S)

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[REDACTED]

attacks were made with LGBs resulting in 70 antiaircraft weapons destroyed and five damaged. These represented only about 8 percent of the sorties attacking AA weapons and positions, but resulted in about 27 percent of the weapons reported destroyed or damaged. ^{314/}

4) (S) [REDACTED] (U) Losses.

a) (S) [REDACTED] Aircraft Losses. U.S. fixed-wing aircraft flew more than 9,800 sorties (1,291 FAC sorties included, 1,358 B-52 sorties excluded) in Laos in support of Lam Son 719, in which they made over 25,000 passes against well-defended enemy targets. Between 8 February and 1 April, tactical aircraft reported 1,208 instances of ground fire, 36 hits, and seven losses. Even though the loss rate was greater than for normal STEEL TIGER operations, it was low considering the number of sorties flown in close air support and the concentration of enemy fire in the area. The majority of losses were caused by small arms or automatic weapons fire, which would not represent a threat at the altitudes flown during normal STEEL TIGER operations. Table 15 lists the fixed-wing losses for the operation, together with their causes. ^{315/}

b) (S) [REDACTED] Helicopter Losses. One of the most controversial aspects of U.S. support of Lam Son 719 was the massive use of U.S. Army helicopter resources and the losses they sustained. Army reporting procedures for helicopter losses were confusing and incomplete. Air Force analysts had difficulty in interpreting the limited Army reports available to them, and noted that these reports

[REDACTED]

TABLE 15

U.S. FIXED-WING LOSSES IN LAM SON 719* (U)

<u>Aircraft</u>	<u>Date</u>	<u>Cause</u>
F-4D	11 Feb 71	12.7mm Automatic Weapons
F-4D	25 Feb 71	Unknown, attacking tank
F-4D	25 Feb 71	.51 Cal
A-1H	6 Mar 71	Small Arms
A-7**	13 Mar 71	23mm
O-2A	16 Mar 71	37mm
F-100D	22 Mar 71	12.7mm tank fire

**Includes only losses for U.S. aircraft flying missions in support of Lam Son 719. Loss of an Australian B-57 to a SAM in RVN near the DMZ is, therefore, not included.*

***Hit outside Lam Son area but flying in support of the operation.*

Source: Report, Lam Son 719, SVN Incursion (U), 7AF, 24 Mar 71, p. 122. (S)

[REDACTED]

understated losses. Some press reporters, frustrated by Army loss reports, implied that the Army was playing a numbers game in recording losses and questioned the use of helicopters in a high intensity combat environment. They were not unjustified in their suspicions, as it was later revealed that roughly 20 percent of the helicopters reported as damaged would never fly again.^{316/}

(S) **SECRET** Between 8 February and 1 April, 7AF intelligence reported 114 helicopters lost, 674 hit, and 793 fired upon. Nearly 90 percent of the hits were caused by enemy small arms and automatic weapons fire. Considering the fact that approximately 20 percent of the helicopters reported as damaged would never be repaired, the total loss was estimated to actually be well over 200, or roughly a third of the U.S. helicopter resources devoted to the operation.^{317/} A Director of Defense Research and Engineering memorandum addressed the subject of helicopter losses in another light:^{318/}

U.S. supporting helicopter losses were very high. Although they may be interpreted as being modest through manipulation of the statistics and comparison to the total available in-country U.S. Forces (both fixed and rotary wing), the fact remains that the totals lost and damaged in six weeks approach the total projected for the ultimate VNAF force structure. . . .

[REDACTED]

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III. LESSONS LEARNED/RECOMMENDATIONS

A. [REDACTED] (U) COMMANDO HUNT V

(U) [REDACTED] Air operations in STEEL TIGER and BARREL ROLL during CH V were characterized by the employment of new or improved tactics and weapon systems introduced to increase the effectiveness of air interdiction and close air support operations in Laos. The events and developments during CH V, together with the experience gained during the campaign, have led to the development of significant lessons learned and recommendations which are presented below.

1. [REDACTED] (U) Lesson Learned.

(U) Specialized weapon systems, employing advanced or improved technology, helped offset the limited level of air resources available to 7AF and contributed significantly to the effectiveness of the CH V campaign.

Rationale

(U) [REDACTED] There were at least four examples of this lesson during CH V. First, an expanded and modified AC-130 gunship force was highly successful in inflicting damage on the enemy during CH V. Second, specially modified B-57Gs, introduced during CH V, were designed to provide a self-contained, first pass, night attack capability for the less permissive environment. Though only a pioneering effort, the employment of the B-57Gs contributed significantly to the effectiveness of the truck-killing force. Third, the expanded use of LGBs was a major factor in the increased effectiveness of attacks against enemy air defenses and other

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point targets. Fourth, the development and introduction into SEA of the PAVE PHANTOM (LORAN) bombing system enhanced CH V operations and represented an important step in the effort to provide the Air Force with an accurate, all-weather bombing capability. (pp. 26-27, 37-45, 49-51, 58, 62, 71, 210, 212.)

2. (u) [REDACTED] (U) Lesson Learned.

(u) [REDACTED] COMMANDO HUNT V apparently made a greater contribution toward containing enemy activities than any earlier campaign. Nevertheless, it verified previous experience that, by itself, air interdiction in Laos could not reduce enemy resupply below the level needed to support his minimum needs. Even at the low rate of resupply estimated for the 1970-71 dry season, the enemy moved enough supplies to support a protracted war strategy during 1971

Rationale

(u) [REDACTED] Reported BDA for CH V air operations was at a record level, while throughput during the campaign was estimated to be far below that observed during CH III, and somewhat less than that of CH I. Although reported BDA and throughput estimates were not exact, they demonstrated an increase in interdiction effectiveness relative to previous campaigns. Assessment of enemy capabilities based on the level of logistics resupply estimated for CH V indicated that the campaign had made a significant contribution toward imposing a ceiling on the level of enemy activities during the months following the campaign. It was also true, however, that even at his rate of resupply

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during CH V, the enemy could pursue a limited protracted war strategy indefinitely and could mount limited offensives in some areas. Estimates by the JCS indicated that he retained the capacity to launch damaging offensives in either Cambodia or the northern regions of South Vietnam, but that the level of resupply during CH V was insufficient to support simultaneous, sustained offensives in both areas. (pp. 23-26, 84-88.)

3. (u) [REDACTED] (U) Lesson Learned.

[REDACTED] Accurate assessment of the overall effectiveness of air interdiction and tactical air support operations in Laos continued to be a formidable task during CH V.

Rationale

(u) (u) See sub-lessons learned a, b, and c, below.

Recommendation

(u) [REDACTED] Continuing efforts must be made to insure that strike results and the associated impact of air operations on the enemy are measured and reported as accurately and meaningfully as possible.

a. (u) [REDACTED] Sub-Lesson Learned. Estimated throughput reported by 7AF during CH V did not by itself accurately reflect the enemy's logistic capability to support his forces in South Vietnam and Cambodia.

(u) [REDACTED] Rationale. Input and throughput estimates were based upon the number of trucks entering or leaving Laos on known enemy routes, as observed primarily by sensors and as verified where possible by aircrew observations. Sensor estimates of truck entries and exits,

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however, were admittedly low due to the proliferation of enemy bypasses which were difficult to discover and monitor. Thus, by the very nature of the information upon which they were based, throughput calculations tended to underestimate the flow of enemy supplies through the exit areas. Even allowing for the undetermined degree of underestimation inherent in throughput calculations, CH V throughput estimates did not alone provide a valid measure of the enemy's capability to support his forces in the south. This was so because throughput only addresses the observed input into Cambodia and South Vietnam, and does not take into account the accumulation of stockpiles in the exit areas. (pp. 74, 80-84.)

b.(u) [REDACTED] Sub-Lesson Learned. Reported truck destruction, while it provided an insight into enemy supply losses and damage to his truck fleet, did not represent the actual number of trucks removed from his inventory. Valid interpretation of strike results, when reported in simplistic, short-hand categories like "trucks destroyed," requires that they be viewed in light of the BDA criteria upon which they were based.

(u) [REDACTED] Rationale. Despite efforts to make truck BDA as accurate as possible, the number of trucks reported destroyed/damaged during CH V was out of proportion to other indicators of truck losses, such as estimates of the NVN truck inventory, truck replacements entering Laos, and NVN requests for truck replacements from Communist countries. These indicators, in themselves of uncertain validity, dealt in numbers of trucks, per se.

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(u) [REDACTED] The problem appeared to be largely a matter of terminology. A truck reported "destroyed" did not necessarily imply a "loss" to the enemy's inventory. For example, because of the BDA criteria used, a secondary explosion or fire during an attack on a truck would result in a reported "truck destroyed." In actuality, while such a secondary might well imply the destruction of the truck's cargo, and severely damage the truck itself, it still did not guarantee "destruction" in the sense of obliteration. Moreover, the criteria in effect for AC-130 gunships during the campaign called a truck destroyed if it had sustained a direct 40mm projectile impact, with or without a secondary fire or explosion. The distinction between a truck reported "destroyed" and an actual loss to the inventory was even more pronounced in this case.

(u) [REDACTED] By salvaging or cannibalizing such "destroyed" trucks, the enemy could reduce the losses to his inventory, and visually reported results would then be inconsistent with actual losses. Thus, no matter how strictly aircrews adhered to truck BDA criteria, reported losses were apt to be misleading unless consideration was given to the BDA criteria as well as the reported results.
(pp. 74-80)

c(u) [REDACTED] Sub-Lesson Learned. Aircrew-reported BDA, by itself, did not provide a measure of the effectiveness of close air support to friendly Laotian forces.

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(u) [REDACTED] Rationale. Quantitative results for USAF support of RLG forces were usually either unobtainable; due to a lack of ground follow-up, or inapplicable, due to the nature of the support given. For example, strikes against suspected enemy troop concentrations or positions, or the provision of gunship presence over an area, were unlikely to produce observable damage. Such strikes, however, could be more damaging to the enemy and more critical to the survival of friendly forces than attacks against trucks or storage areas, even though these attacks were more likely to result in positive BDA. Those closely associated with the ground war in Laos repeatedly stated that air support was playing a crucial role, but that they were unable to quantify its results. In the absence of quantifiable results, the best measure of the impact of air power on the enemy during CH V was the successful defense of strategic positions in northern Laos, which would likely have been lost without air power. (pp. 113-115, 120-124.)

4 (u) [REDACTED] (U) Lesson Learned.

[REDACTED] The application of a large segment of the CH V strike effort against the enemy's entry route structure was of questionable value.

Rationale

(u) [REDACTED] A concentrated, sustained TAC AIR and ARC LIGHT saturation bombing effort was directed against the entry areas during the months of October, November, and December of the CH V campaign. Although the saturation bombing accounted for more than half the sorties expending ordnance in STEEL TIGER during those months, it did not

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prevent the enemy from introducing record quantities of supplies into Laos. At best, it delayed enemy input for limited periods. Although entry interdiction forced the enemy to expend some level of effort to counter its effects, it was not at all clear that the results justified the high level of air resources employed in the program. Some positive results were obtained from the concentrated strikes against enemy LOC in the entry areas, throughout the route structure, and in the exit areas. However, the 40 percent of CH V sorties flown against such targets seemed excessive in view of the questionable results of the strikes, and the limited air resources available for the campaign. (pp. 28-30, 33-37, 51-58, 62-66.)

5. [REDACTED] (U) Other


a. (u) [REDACTED] (U) Lesson Learned.

[REDACTED] During the 1970-71 dry season, when faced with a significant reduction in U.S. air support, the RLAF successfully assumed an increasing portion of RLG close air support requirements. This would not have been possible without the assistance of USAF training, maintenance and advisory personnel.

Rationale

(u) [REDACTED] With U.S. air support resources diminishing, it was essential that the RLAF assume a greater share of RLG close air support requirements during CH V. With the assistance of USAF training, maintenance, and advisory personnel, the RLAF for the first time

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reached long-established sortie goals. Also for the first time RLAF sortie rates consistently surpassed the number provided by U.S. aircraft. The effectiveness as well as the quantity of RLAF strikes increased. This was especially evident in the AC-47 gunship fleet which, with the assistance of a U.S. advisor, evolved from a state of nearly total ineffectiveness at the beginning of the campaign, to a decisive and effective fighting force by its end. (pp. 95, 112, 125-128.)

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B. [REDACTED] (U) LAM SON 719

1 (u) [REDACTED] (U) Lesson Learned

[REDACTED] Up until two weeks prior to the start of Lam Son 719, preliminary U.S. and RVNAF planning was hindered by unusually tight security restrictions imposed on details of the operation.

Rationale

(u) [REDACTED] As a result of unusually tight security restrictions, no Air Force planners were involved in preparation for Lam Son 719 until 14 January 1971. The preliminary, overall planning was done on a rushed basis by U.S. XXIV Corps and ARVN I Corps staffs. It was not until 14 January that 7AF representatives were called in to develop plans covering the provision of air support to the operation. In addition, planning throughout Lam Son 719 was complicated by the fact that General Lam, South Vietnamese commander of the operation, did not release some details until the last minute. Despite the close hold nature of planning, the required plans were completed in time for the operation. (pp. 135, 142-146, 205-206.)

Recommendation

(u) [REDACTED] Unrealistic efforts to maintain tight security should not be allowed to inhibit the planning process. Planning, especially for joint service or combined operations, must involve sufficient numbers of planners early enough to develop a comprehensive plan which provides for coordination among participating forces and prepares for contingencies.

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2. [REDACTED] (U) Lesson Learned.

(U) [REDACTED] The failure to establish a single airspace control agency for all air resources operating within the Lam Son 719 area aggravated airspace control problems, created safety hazards, and reduced the effectiveness of U.S. support of the operation.

Rationale

(U) [REDACTED] The small size of the Lam Son area, together with the large number of fighters, FACs, and B-52s operating in the area, created serious airspace control problems. The situation was severely aggravated by the presence of helicopters flying at random altitudes on a variety of missions. Lack of communication with these helicopters was a problem throughout the operation. They were not required to check in to a central airspace control agency upon entering or exiting the Lam Son area, nor did they maintain communications on any predictable frequency. There were occasions when ARC LIGHT or fighter strikes were cancelled at the appearance of helicopters with which communication could not be established. Airspace control was further complicated by artillery fire throughout the Lam Son area. Furthermore, there was no provision for central control and coordination of all the various types of firepower: TAC AIR, ARC LIGHT, helicopter, artillery. (pp. 132-134, 167-171, 183-187.)

Recommendation

(U) [REDACTED] In any operation such as Lam Son 719, a single agency must be designated to control air traffic and coordinate delivery of all firepower in the area of concern.

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3. [REDACTED] (U) Lesson Learned.

(U) [REDACTED] Inadequate interface and coordination between Army and Air Force agencies, and between U.S./RVNAF forces, reduced the effectiveness of U.S. support of Lam Son 719.

Rationale

(U) [REDACTED] No centralized control element was established to manage the various U.S. assets supporting Lam Son 719. Also, no authoritative joint or combined organization was initially established through which Air Force, Army, and RVNAF expertise could be blended to provide coordination of operations. As a result, coordination problems were numerous.

(U) [REDACTED] During the first month of the operation, most daily helicopter and tactical air strike operations were conducted independently. Army personnel, influenced by prior experiences in South Vietnam, were convinced that the helicopter could survive in the Lam Son environment with minimal tactical air support, and, therefore, did not coordinate their operations in advance with the Air Force. Requests for tactical air support of helicopter operations were usually last-minute reactions to encountered enemy resistance, rather than a pre-planned measure to prevent difficulties before they occurred. During the latter part of the operation, after the establishment of a joint coordinating group, the employment of tactical air strikes in support of helicopter assaults and extractions increased, but other significant coordination problems continued to surface. The failure of Army and Air Force units to coordinate their activities on a daily

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basis--their inability to effectively fight together as a team-- seriously degraded their support of Lam Son, particularly during the first month of the operation.

(u) [REDACTED] Not only was U.S. joint service coordination inadequate, but the initial failure to establish an effective combined organization resulted in poor coordination of U.S. and RVNAF activities during the first month of the operation. The commander of the operation, General Lam, often did not inform the Army and Air Force of support requirements until the last minute. Also, he was not fully aware of the status and availability of U.S. resources supporting the operation. (pp. 132-134, 144-145, 183-187, 201-204.)

Recommendation

(u) [REDACTED] When U.S. forces are engaged in a combined operation such as Lam Son 719, a joint U.S. staff element must immediately be established and given the authority necessary to coordinate the employment of U.S. forces. Additionally, this staff element should be integrated with those of other countries involved, and should work closely with the overall commander of the operation so that the combined resources will be effectively coordinated and employed.

4. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] During Lam Son 719, there was no centralized intelligence agency which could assimilate intelligence from the various sources to develop the best possible targets for the strike resources available.

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Rationale

(u) [REDACTED] Each of the participating forces in Lam Son had access to a wealth of intelligence, much of which was unique to its own organization. In addition to the intelligence provided by recon aircraft, other USAF aircrews, particularly FACs, accumulated potentially valuable information. Helicopters, especially during reconnaissance missions, uncovered targets which were unobservable from higher altitudes. Ground forces, too, were a potential source of useful intelligence as a result of their extensive probes and contacts with the enemy. Though each agency developed its own targets based on its limited range of intelligence, there was no central agency established to digest the various items of intelligence to provide targets based on the total range of information available. (pp. 183-187, 202-203.)

Recommendation

(U) During a combined operation, a joint intelligence center must be established to take advantage of all available information to provide the best possible targets for strike resources.

5. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] Lam Son 719 demonstrated that the RVNAF did not, and implied that in the foreseeable future they would not, have the capability or the resources to cut off infiltration through Laos by ground interdiction. However, the operation did show that they had the capability to harass infiltration by conducting mobile, hard-hitting forays of limited depth and duration.

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Rationale

(u) [REDACTED] Even with extensive U.S. support, South Vietnamese troops were forced from Laos by determined enemy resistance. Based upon projected force structures, the South Vietnamese would not have the resources to provide the level of support provided by U.S. forces in the operation. The number of helicopters destroyed and damaged in the six-week campaign approximated the total helicopter resources projected for the RVNAF. Planned South Vietnamese tactical air resources would be inadequate both in number and sophistication to equal the U.S. support provided in Lam Son 719. If the South Vietnamese attempted to cut the Laotian LOC by a large-scale, long-duration operation of the Lam Son type, determined enemy resistance would force the RVNAF to withdraw due to inadequate logistics support and sortie generation capabilities. On the other hand, South Vietnamese forces did show that they had the potential capability to conduct damaging attacks against the enemy's logistics system capitalizing on mobility and hit-and-run tactics. Although they experienced a number of problems related to planning, coordination, and tactics during Lam Son, the shortcomings were of the type which could be corrected without necessarily increasing projected RVNAF force structures. If these deficiencies were corrected, hard-hitting raids, even of only limited depth and duration, could be a serious harassment to the enemy, and tie down a large number of his troops in a defensive role. (pp. 166-167, 187-198.)

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Recommendation

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(u) [REDACTED] U.S. forces should assist the RVNAF in identifying and correcting the deficiencies experienced during Lam Son 719 so that any future attacks against the enemy's infiltration system will be based on sound tactics and will be compatible with limited RVNAF resources and capabilities.

6. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] During Lam Son 719, even with tactical air support, helicopters suffered unacceptable losses and could not provide the degree of support needed by ground forces.

Rationale

(u) [REDACTED] Helicopters are valuable when employed in permissive areas, but they were out of their element in the Lam Son environment even though that environment was considered permissive for tactical air operations. Small arms and automatic weapons fire during the operation caused severe helicopter losses, and at times prohibited insertion/extraction of troops, and resupply of besieged positions. Tactical air support demonstrated the capability to reduce helicopter losses, but could not always prevent serious losses or guarantee completion of the assault, extraction, or resupply mission. The situation became critical during the final days of the operation when the enemy launched an all-out offensive against the withdrawing RVNAF. Friendly casualty rates, already high, were increased by the inability of helicopters to resupply or evacuate a number of key positions. By repeated attempts

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in the face of deadly enemy fire, and with heavy tactical air support, helicopter crews ultimately managed to extract most of the RVNAF survivors from the Lam Son area, though they sustained heavy helicopter losses in the process. It is clear that U.S. Army and RVNAF planners relied too heavily on helicopter resources during Lam Son, and overestimated the ability of helicopters to survive in that type of environment. (pp. 144-145, 155-159, 161-167, 174-176, 203-205, 212, 214.)

Recommendation

(U) Extensive helicopter operations in areas of high enemy concentration should be avoided since such operations are far more costly and less effective than when conducted in permissive areas. If helicopter operations are absolutely necessary in less permissive areas, however, maximum use must be made of tactical air strikes to suppress ground fire. The Air Force and Army should develop joint operational doctrine to provide guidance for tactical air support of heliborne operations.

7. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] Lam Son 719 again verified previous experience that air power is a powerful and valuable tool in supporting ground forces. Nevertheless, air strikes alone could not repel strong and determined enemy assaults against static positions without aggressive and effective ground defense forces.

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Rationale

(u) [REDACTED] Repeatedly during the Lam Son operation, air strikes provided the margin of survival for besieged ground forces. Night gunship support of defensive positions and fighter strikes against enemy tanks were particularly critical and dramatically effective. Air strikes were often the only means of forcing the enemy to break contact and abandon his assaults, if only temporarily. Although successful and influential, air strikes could not always provide the margin needed. In some cases, the enemy was too strong and determined to be turned back. Inevitably, there were occasions when tactical air support was not available at a critical time because of factors such as weather, limited resources, and conflicting priorities. In these situations, ground defenses were often not strong enough to hold back the enemy. Close air support can be a valuable and decisive asset, but to be most effective must be employed in conjunction with a well-trained, equipped, and motivated ground force. (pp. 152-155, 161-165, 171-173, 206-210.)

8. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] Timely tactical air support of helicopter assaults into heavily defended areas significantly reduced losses and increased the chances for successful completion of the mission.

Rationale

(u) [REDACTED] Tactical air and B-52 preparation for helicopter landing zones and surrounding areas reduced the volume of enemy fire, thereby

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reducing losses and increasing the chances for completion of the assault. In Lam Son 719, COMMANDO VAULT, ARC LIGHT, fighters, and FACs all proved valuable in supporting assaults. Preparatory strikes were most effective when delivered just prior to an assault, thus minimizing the warning to the enemy of the landing zone location. Strikes during the assault reduced the volume of fire from the enemy remaining in the area. Tactical air support of insertion, extraction, or resupply efforts was most successful when supported by aggressive ground forces who, by patrolling out from the landing zone, kept the enemy at a distance and pinpointed his position for air strikes. (pp. 156-160, 174-178.)

Recommendation

(U) The Air Force and Army should develop joint operational doctrine to provide comprehensive guidance for providing tactical air support of helicopter assaults.

9. [REDACTED] (U) Lesson Learned.

(u) [REDACTED] By providing nearly continuous coverage of the battle-field area, the "stream concept" resulted in short response times for close air support needs. It should be recognized, however, that because of the loiter times and ordnance loads of most of the aircraft used, successful employment of the "stream concept" requires the preplanned availability of large quantities of air resources.

Rationale

(u) [REDACTED] A nearly continuous stream of TAC AIR was provided to the Lam Son 719 operation, with fighters scheduled to arrive

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in the battlefield area every fifteen minutes. This continuous air cover was successful in that it provided short response times for support of ground actions. However, due to the loiter times and ordnance loads of most of the aircraft employed, provision of continuous air presence required the commitment of large quantities of air resources. A long-loiter close air support aircraft capable of carrying heavy and varied ordnance loads would have considerably reduced the amount of resources needed to provide continuous air cover. During the operation, fixed-wing gunships demonstrated the value of a long-loiter capability and large ordnance loads by providing continuous night coverage of the ground forces with a minimum amount of air resources. (pp. 142-144, 169, 172, 206.)

10. [REDACTED] (U) Lesson Learned.

(U) [REDACTED] During Lam Son 719, the B-52 proved to be an effective weapon system in close support of ground forces.

Rationale

(U) [REDACTED] During Lam Son 719, B-52s were employed in a variety of tactical roles, including not only interdiction in or near the battlefield area, but also close support of ground forces. Their usefulness in the latter role was enhanced during the operation when new SAC procedures were implemented to allow target changes as close as three hours before the scheduled time over target. Throughout the operation, B-52s struck enemy positions in preparation for friendly ground advances,

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and were employed in proximity to friendly troops. These latter strikes proved to be particularly effective, inflicting severe casualties on massed enemy units, and at times providing the only lulls in otherwise continuous enemy attacks. (pp. 178-183.)

Recommendation

(u) [REDACTED] The capability for employment in a tactical role should be considered during the development of follow-on manned strategic weapons systems.

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12. Op. Cit., Southeast Dry Season Interdiction Plan (U), pp. 4-13.
13. Ibid., pp. 4, 8, 9.
Op. Cit., COMMANDO HUNT V (U), pp. 39, 40, 253-276.
14. Ibid.
15. Report: COMMANDO HUNT (U), 7AF, 20 May 69, pp. 81-121. (S)
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20. Op. Cit., Southeast Dry Season Interdiction Plan (U), p. 5.

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- Op. Cit., COMMANDO HUNT V (U), pp. 71-85.
30. Ibid.
31. Op. Cit., COMMANDO HUNT V (U), pp. 102, 104-108, 216.
32. Ibid., pp. 1, 130-132.
33. Op. Cit., COMMANDO HUNT V (U), p. 253.
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55. Message: Target Acquisition/Laser Designator Systems for Tactical Strike Aircraft (U), CINCPACAF, 050509Z May 70. (S)
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59. Report: Interdiction in Route Package I (U), PACAF (CHECO), 30 Jun 69, pp. 65-65. (TS)

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