During this time, three FACs were assigned to cover the Citadel area with other FACs providing coverage for RVNAF units retreating south. At 1400, 7AF JRCC ordered the rescue components at Da Nang to execute the Quang Tri evacuation plan. The 37th ARRS initiated the plan at 1500, and all forces were in the area by 1525 in a "feet wet" orbit east of Quang Tri. The weather at launch, enroute, and in the objective area was clear with a visibility of 15 miles. Major Brookbank, 3d Division ALO, coordinated the fire support and rescue team efforts from his position within the walls of the Citadel. Major Brookbank said that:

Each FAC was given four sets of TACAIR to commence air support at 1530 with the "Jolly Greens" due in at 1535. The power station was blown at 1520 by the NVA and control of TACAIR was turned over to Ramrod (ABCCC), by land line to I-DASC. Army advisors proceeded to burn classified materials and destroy all equipment with high explosives. Four squads had been formed in case the evacuation failed and a breakout had to be made. The air cover commenced at 1530 as F-4s delivered every type of ordnance. The tactical situation dictated that normal safe distances be waived. So, we could do nothing but watch, wait, and thank God for the U.S. Air Force.

Despite the fast mover F-4 strikes, some enemy artillery continued to hit the Citadel. One 105mm shell impacted five feet beneath an American guarding the south wall. (Because the soft dirt absorbed the full impact, there were no casualties.) Finally, at 1630, after a sustained barrage of TACAIR strikes, the FAC called for the rescue forces. The Jolly Greens were coming in. A-1 Sandy aircraft from Da Nang AB led the Jolly Greens to the Citadel in five-minute intervals.
As the Jolly Greens made their dangerous, low-level approach, landed, and completed the evacuation, the Sandys flew clover leaf fire suppression patterns, and the two Hobo (A-1) aircraft from Nakhon Phanom RTAFB placed down an effective smoke screen. Jolly Green 71 landed on the small pad inside the Citadel surrounded by a burning bunker to the north, a 12-foot wall to the south, and buildings to the east and west. The aircraft received no ground fire, but, while on final approach, the tail gunner fired at some NVA outside the Citadel who were observed to be aiming small arms weapons. Jolly Green 71 departed the pickup area at 1652 after two minutes on the ground, and landed at Da Nang AB at 1745 with 37 survivors.

The second rescue aircraft, Jolly Green 65, entered the area escorted by Sandy 11. About one mile out, the pilot started an auto-rotative descent from 4000 feet and landed on a northeasterly heading. The pilot gave the following report:

Most of the buildings were on fire causing heavy black smoke to blow northeast shielding us from the heaviest concentration of enemy troops. The survivors boarded through the aft ramp and after two to three minutes, we took off with forty-seven passengers.

Although a ground advisor had identified a need for four rescue helicopters, Jolly Green 21, the third aircraft to ingress, successfully evacuated the remaining 45 survivors. A fourth Jolly Green landed, but took off in 30 seconds when the pilot discovered everyone had been evacuated.
The SAR evacuation of 132 personnel from the Citadel reflected a tremendous USAF team performance. The rescue forces achieved their goal while braving perilous conditions and without suffering a single casualty or aircraft loss. Only the professionalism of the TACAIR (A-1 and F-4), FAC, and rescue crewmembers enabled this outstanding accomplishment.

After the collapse of the Citadel defense, evacuating elements of the RVNAF moved south for the next two days. During this time, USAF FACs were constantly aloft, maintaining communication contact, providing RECC for the retreating columns, and directing TACAIR strikes against pursuing NVA forces. Seventh Air Force placed emphasis on the destruction of vehicular traffic between the DMZ and Dong Ha, and the protection of the retreating elements. One retreating element, the 5th Ranger Group, made contact with a USAF FAC at 1400 on 1 May. The Ranger advisor gave an account which relates the hazardous nature of the mission of the USAF FAC:

The FAC spotted targets and directed airstrikes from 1600 hours until he was shot down at approximately 1800 hours, parachuting into the leading elements of 5th Ranger Group. His replacement FAC continued to direct airstrikes and extraction of the downed FAC was planned but was abandoned when a Skyraider flying cover was hit and forced to head for the coast. Air support was diverted to support the damaged aircraft.

This Ranger unit was cut off by enemy forces and was forced behind enemy lines. Attacked from several directions while within the enemy's defensive positions, the 5th Ranger Group scattered into fairly small elements. The following day the downed FAC arranged a helicopter extraction for the three Ranger advisors and himself.
In another supporting action, a USAF FAC spotted tanks approaching the 147th VNMC Brigade south of Hai Lang. The FAC called in TACAIR to engage the enemy tanks and infantry and called in an Army helicopter to evacuate the U.S. advisors.

Eventually, all RVNAF elements retreated from Quang Tri Province. On 3 May, the VNMC 369th Brigade completed the withdrawal by evacuating FSB Nancy and crossing to the south side of the Thac Ma River. The Stars and Stripes published poignant stories about "the lone, lonesome road out of Quang Tri":

"We were beaten at Fuller, we were beaten at Dong Ha and we have been beaten at Quang Tri," said one Vietnamese soldier. "I am finished. I have had enough." Another said, "It was hell in Quang Tri. The shells were landing all around us. We started running to get away. It was horrible. We were so scared. We just ran and ran... we didn't see any Communist soldiers. It was just the shells."

During this final phase of the battle for Quang Tri Province, the NVA had directed coordinated attacks from all directions on Quang Tri City. The intense NVA artillery and tank attacks created havoc by splitting some RVNAF forces and inducing panic in others. U.S. TACAIR and naval gunfire were vital defensive assets as the ARVN artillery
gradually lost all effectiveness. However, some RVNAF forces held while others broke and ran. As noted by one observer:

The RVN Marines never lost fighting effectiveness and had to be ordered to withdraw many times to plug gaps in the front. In the end, the VNMC 147th and 258th Brigades; and the 20th Tank Squadron, because they never stopped fighting and remained effective, enabled the U.S. advisors in the Citadel to evacuate. Those units (VNMC and 20th Tank) with their advisors fought their way out toward Hue.

Thus, the NVA had achieved the initial objective of their invasion of MR I, the capture of Quang Tri City. Within a span of 33 days, the entire province had fallen to the NVA forces. Many officials were quick to point out, however, that the NVA did not "win" Quang Tri Province—the South Vietnamese "lost" it. In this vein, Paul A. Daly, Province Senior Advisor, commented:

Psychologically the NVA scored heavily with the introduction of 130mm artillery and tanks. In justifying their collapse, a number of South Vietnamese used this for an excuse—without considering that they had more artillery and better tanks, not to mention TACAIR, B-52 strikes, and naval gunfire. Rumors, refugees, and retreating troops heading south did the rest. There was a definite requirement for a strong psychological warfare campaign to let the troops know what was going on, buck up their morale, and remind them of what they were fighting for.

Lt Colonel Hoat, Commander of the VNAF for Quang Tri and Thua Thien Provinces, shared Daly's viewpoint of the demoralizing effect of the heavy artillery. Hoat added that the morale of senior military and civilian
leaders in Quang Tri Province was also undermined by rumors that the United States had permitted the enemy attack to occur as a test of Vietnamization. He further identified several specific problem areas: (1) the RVNAF made no effort to pin the enemy down to enhance the effectiveness of air strikes; (2) there was a lack of coordination among RVN ground, artillery, and air forces; and (3) the lack of an operational plan adequate to cope with the situation was a serious shortcoming.

Additional factors which contributed to the fall of Quang Tri Province as cited by USAF and USMC advisors included:

- Adverse weather conditions during the first critical days of the NVA offensive and during occasional later periods limited air application and effectiveness.

- The inability of Allied forces to neutralize enemy armor and heavy artillery quickly in the intense AAA and SAM environment.

- The extended SAR no-fire zones which hampered ARVN efforts to counter NVA movements and fire power.

- ARVN utilization of available air resources was hesitant and inexperienced despite advisory assistance.

- Targeting changes and modifications of 3d Division's requests were made by higher commander levels without coordination.

- Execution of area denial mission requests was delayed and ineffective.

- ARVN artillery support was extremely poor, both in volume and timeliness.
- Lack of active patrolling precluded the compilation of intelligence information about the enemy's disposition, strength, and intentions.

- The breakdown in unity of command in several instances resulted in the failure of units to remain responsive to the area commander.

The inexperienced ARVN 3d Division suffered the brunt of criticism. The command and control of the division was reportedly remiss in the coordination of ground, artillery, and air resources. Based on numerous after-action reports, the charge appears well-founded. The collapse of General Giai's 3d Division command post played a major role in the disintegration of the defensive posture at Quang Tri City. In an emotional letter, General Giai accepted "full responsibility" for the retreat:

I bear full responsibility . . . [to the judgment of] history and the law for this withdrawal. The capital of Quang Tri Province is in ruins. Our food, our ammunition, all our fuel supplies are gone. Our force is exhausted. I see no further reason why we should stay on in this ruined situation. I ordered you to withdraw in order to fortify our units again from a new front to annihilate remaining Communist forces if they still engage in this wrongful war.

The loss of Quang Tri had an immediate impact in the Saigon Palace. President Thieu was under no illusions concerning the military, political, and psychological importance of the defeat. He was also skeptical of the prospects to organize an effective defense line short of Hue.
CHAPTER VI
THE DEFENSE OF HUE

After the capture of Quang Tri, the NVA consolidated its gains and repositioned its forces for an attack on Hue. The enemy goal was to seize this key city and, in the process, to annihilate as many RVNAF main forces and reserves as possible. 120/

With Quang Tri secure, the NVA continued heavy indirect artillery fire and ground attacks (supported by armor) against friendly positions in the eastern Quang Tri/Thua Thien border area and on the western approaches to Hue. To support their operations, the enemy expanded their logistics system in MR I and deployed additional units from NVN. The NVA also sought to take advantage of the widely-dispersed ARVN forces by stepping up guerrilla attacks, terrorism, and propaganda and proselytizing activities in Quang Nam, Quang Tin, and Quang Ngai Provinces. Further, captured NVA communication logbooks revealed that the enemy monitored RVNAF and U.S. radio communications, enabling the NVA to use their forces in MR I more efficiently and to avoid contact with ARVN search operations. The NVA artillery advantage was strengthened by their use of captured PRC 25 radio sets to confirm and adjust artillery fire. After their first artillery round impacted, the enemy temporarily ceased firing and used the radio to monitor RVNAF or U.S. conversations. Based upon information gained by such monitoring, the enemy then adjusted their aim and continued shelling the targets with improved accuracy. 121/
With the NVA rapidly repositioning troops and equipment for an advance on Hue, President Thieu acted promptly to restore confidence and prepare for battle. On 3 May, he ordered Lt Gen Ngo Quang Truong, MR IV Commander, to take command in MR I. This was a psychological as well as a tactical move. In addition to his acknowledged military competence, Truong also brought to MR I his reputation as the commander of the ARVN division that had functioned successfully at Hue during the enemy Tet offensive in 1968. Then, in a strategic move to bolster the RVNAF units defending the approaches to Hue, he directed the airlift of two brigades of the elite Airborne Division to Thua Thien Province. Finally, President Thieu emphasized his concern for the defense of Hue by making a personal visit to Phu Bai and Hue on 4 May. This trip raised his prestige and gave new hope to the defenders of MR I.

A herculean task confronted Gen Truong when he assumed command of MR I. The remnants of the ARVN 3d Division were in disorganized retreat; the VNMC was making a valiant effort to establish a line of defense against the NVA along the northern Thua Thien border and the My Chanh River; and the 1st ARVN Division was struggling to maintain defensive positions to the west and southwest of Hue. The conditions dictated firm leadership to regenerate a fighting spirit among the military forces and to restore confidence in the command structure. General Truong's first action in early May was to reorganize the defense. He formed a northern defensive line along the Quang Tri-Thua Thien border and My Chanh River from the coast inland beyond Route 1. The 369th and 258th VNMC Brigades, supplemented by RF/PF forces,
occupied the critical northern positions. Truong gave the VNMC's 147th Brigade responsibility for the Hue Citadel defense, placing two battalions on the walls and one in a reserve posture. The ARVN 1st Division assumed the responsibility for the remaining approaches, starting on the northern flank at Camp Evans and swinging southward to FSB Birmingham and Camp Eagle. Finally, to better coordinate the defenses of Hue, General Truong moved the 123rd I Corps Headquarters to Hue.

After General Truong established his Headquarters at Hue, he wanted the coordinating and controlling arm of the MR I air effort collocated at the Citadel. When he requested 7th Air Force to move the I-DASC from Da Nang Air Base to Hue, the initial response was negative because of the complex support problems involved. Truong still insisted, however, and in a later interview, General Vogt recalled the action taken on the problem:

I went up to Hue to discuss the I-DASC situation. He [Truong] felt so strongly, as did I after talking to him, about the necessity of having fire support control at Hue that we [7AF] made superhuman efforts to move the DASC.

Consequently, 7AF shifted the I-DASC to Hue, although a skeleton crew remained at the "rear" DASC in Da Nang to provide a backup capability and assistance in the areas of communication, administration, and supply. Further coordination was effected through a Fire Support Coordination Center composed of the naval gunfire support teams and the ARVN Corps artillery (TOC) which was collocated with I-DASC.
To attain efficient and effective control of tactical air, specific areas were assigned for tactical use by ARVN artillery, US tactical air and VNAF tactical air. These tactical areas could be changed within minutes as the tactical or weather situations required by simple coordination procedures developed by the FSCC and the DASC. The two coordination centers worked in complete harmony with excellent results obtained between both air and ground force operations.

While General Truong was concentrating on command and control functions in Hue, the NVA began to assemble their forces for an attack on the city. In order to have any chance of success, the NVA had to move armor and artillery pieces within striking range of Hue and to establish supply lines between North Vietnam and NVA field forces. These NVA requirements dictated Truong's priorities for air and naval fire support: the 130mm gun, tanks, lesser artillery pieces, and trucks, with only TIC situations to receive higher precedence.

Airpower responded to support General Truong's command against the NVA threat with outstanding efficiency. In the most intensive in-country interdiction campaign of the war, 7AF organized and employed its air resources to choke off the enemy's resupply effort. At the same time, FACs and gunships waged a search and destroy operation against the NVA's heavy artillery. TACAIR close air support and B-52 strikes continually frustrated the enemy's ground attacks by inflicting heavy casualties on troop concentrations.
Nonetheless, acting in bold defiance of the omnipresent U.S. fire support, the NVA sought to exploit the advantage that had been achieved during the first month of the invasion. The NVA committed the fresh 324B Division along Route 547 from the west in order to tie down the 1st ARVN Division, and there was no effective force between the enemy to the north and Hue except TACAIR and the battle worn Marines. During the first week of May, the weather broke, and TACAIR began a classic interdiction campaign, cutting roads and using guided bombs to destroy the bridges north of Hue. One group of over 100 trucks were isolated between the destroyed bridges, and, overall, hundreds of trucks were destroyed. Two giant cranes, which were being moved in to restore the bridges, were also destroyed by F-4s delivering the highly effective laser guided bombs (LGBs).\textsuperscript{129/}

Time and again, TACAIR struck massed armor moving toward Hue. Preliminary destruction of SAM sites during late April and early May in the DMZ greatly aided this effort.\textsuperscript{130/} On 2 May, USAF F-4 sorties attacked and halted tanks along the route structure between the DMZ and Dong Ha and also south of Quang Tri City on Highway I.\textsuperscript{131/} On one occasion, when a FAC spotted a column of tanks heading for the My Chanh Bridge, ARVN artillery and TACAIR responded and destroyed 10 tanks.\textsuperscript{132/} Frustrated by TACAIR along the highway, the NVA attempted to skirt defensive positions by moving PT-76 tanks along the beach. Diverted F-4s streaked to the beach, destroying 11 and damaging the other 12 tanks.\textsuperscript{133/}
From 2300 hours on 8 May until 0600 on 9 May, allied forces laid a coordinated barrage of TACAIR, ground artillery, and NGF along a 25 km front extending from the coast along the My Chanh River. The target was an enemy build-up, followed the enemy movements, and directed an additional barrage between 1000 and 1500 hours on 9 May. As a result, a possible major NVA assault was prevented.

Since the start of the NVA offensive, one of the biggest problems had been the location and destruction of enemy artillery pieces, especially the 130mm guns, because of their mobility and firing range. Normally towed by a cab-type tracked vehicle with a 300 HP diesel engine, 130mm guns could be moved almost anywhere: over mountain trails, through the A Shau Valley, and across the broken terrain of the highlands. With deadly accuracy and a range potential of 19 miles, it could outgun all ARVN artillery. Although the ARVN's 175mm gun had a longer range (20 miles), it was not as effective. The 130mm had a higher rate of fire (6-7 rounds per minute) and extremely accurate proximity-fused shells.

Since the ARVN artillery was ineffective in counter-battery fire, General Truong asked what 7th Air Force could do to silence the 130mm to prevent its use in the assault on Hue. Seventh Air Force responded with a major tactical effort aimed at detecting and destroying the 130mm guns. This effort, which encompassed the Hue/Quang Tri areas, began on 5 May and continued for the remainder of the month. While Spectres were used in this effort, it was the FACs who were most effective in locating
On 14 May, regiments of the 1st ARVN Division, and elements of the Airborne Division and Ranger Command, launched a major search operation in the areas west and southwest of Hue. The operation, nicknamed Lam Son 72, became an extended campaign against the NVA forces. The standard plan of attack called for Arc Light missions to strike a suspected NVA area, with RVNAF units moving in to assess BDA and eliminate any resistance. FACs flew overhead to direct artillery fire and call in TACAIR as required. USAF gunships supported night encounters by providing direct fire and flares, and also suppressed enemy artillery fire, often merely by being in the area. One specific ARVN attack, following B-52 strikes, located the forward headquarters of the NVA 29th Regiment. The running engagement with the 29th also led to the retaking of FSB Bastogne on 15 May. By the end of a week's continuous fighting, the NVA 29th Regiment was forced out of combat as a result of the heavy casualties which it suffered.

While these limited campaigns were in progress, the USAF was attempting to assist the ARVN by finding a way to locate and destroy the 130mm guns with greater effectiveness than was possible using FACs and Spectres. On 19 May, 7th Air Force proposed the Acoustic Gun Location System (ACUGUN). This system, based on the Rome Air Development Center's Cross Correlation for Target Location System (CORLOC), was installed at Task Force Alpha (TFA) to locate heavy artillery firing, principally, in the Hue area. The ACUGUN contained many of the elements of the CORLOC system (specifically, simultaneous audio signals from three sensors, time of arrival differences, and intersection of hyperbolae determined by the time of arrival differences).
Airlifted to the battle area, two Airborne units (the 2d Brigade on 8 May and the 3d Brigade on 24 May) strengthened the RVNAF ground capability and set the stage for counterattack operations by the three major RVNAF fighting commands: VNMC, Airborne, and 1st ARVN.

In addition to interdiction and destruction of enemy artillery, close air support was vital in a series of VNMC limited-objective operations. The first of these, Operation Mellwood, was conducted on 13 May when U.S. Marine helicopters airlifted three battalions of the 369th Brigade into enemy-occupied Hai Lang District in southern Quang Tri Province. The objectives of the operation were to throw enemy troops off balance (disrupt offensive plans) and to boost the morale of RVNAF units. The fire support plan called for extensive landing zone preparation by Arc Light, ARVN artillery, NGF, and TACAIR. Eighteen TACAIR sorties struck the area initially, and an additional 22 sorties provided close air support during the engagement. While inflicting numerous enemy casualties, TACAIR destroyed three PT-76 tanks and two 130mm artillery pieces. The one-day action was executed swiftly and with precision. Colonel James Dorsey, USMC, Senior Marine Advisor, called the operation a success and praised the performance of air power.
The major distinction was the ACUGUN's target, now heavy artillery instead of SAM site generators. An audio sensor field was initiated on 9 June using Hue as a center point for 42, 47, 52, and 57 km arcs. On 11 June, 7th Air Force directed the addition of a 62 km arc and additional sensor strings on the 42 and 47 km arcs. As of 21 June, 149 sensors for the ACUGUN Project were in operation.

The results of the ACUGUN system for the period 11 to 30 June were, in summary: a "boom" was heard 711 times; of the 711 computer developed strip-charts, only 140 had targets; from the 140, 176 targets were developed, and, of these, 34 were struck; only two strikes produced damage assessments, but no 130mm guns were destroyed.

General Vogt commented on the ineffectiveness of the ACUGUN system:

The system had many problems. If you tried to use it (ACUGUN) close to ARVN artillery positions, it could not distinguish between the two. We finally decided to employ the system only in areas beyond the range of friendly weapons. However, it was never accurate enough to locate with any precision the 130mm guns. What it did do was to provide an indication of the location and frequency of enemy artillery fire. FACs were trained to search for the guns in specific areas. During the current offensive, FAC directed TACAIR strikes have destroyed over 172 of the 130mm guns and damaged 72.

On 20 May at 0855 hours, the NVA launched a major armor thrust along the My Chanh River. On the east end, tanks crossed the river and headed south against VNMC and PF positions at Huong Dien Village on the coast.
In the center, northeast of FSB Nancy, the enemy forded the My Chanh River and pushed the VNMC back 1 km. To the west end, tanks and infantry crossed south of the Thac Ma River. I Corps notified Blue Chip, and TACAIR was sent to the scene. In all instances, TACAIR struck the enemy positions, inflicting heavy casualties and destroying, damaging, or driving off the enemy tanks. Enemy losses along the Thac Ma front were reported to be 300 KBA and 18 tanks destroyed by TACAIR. The battle see-sawed for several days but eventually the combat activity decreased and the VNMC restored the defensive line. The northern defense, with the valuable fire support of TACAIR, NGF, and ground artillery, had survived its first crucial test.

On 24 May, the VNMC launched another limited-objective action: Operation Song Thanh 6/72. This amphibious and helicopter airborne assault in the vicinity of Hai Lang District (Quang Tri Province) was conducted by three battalions of the 147th Regiment and was designed to seize and destroy enemy forces, equipment, and supplies; to disrupt enemy lines of communications; and to execute a tactical withdrawal toward friendly forces south of the My Chanh River. As before, the Fire Support Plan called for Landing Zone (LZ) preparation by Arc Light, artillery, NGF, and TACAIR.

The VNMC working plan (see Figure 9) indicated the importance of USAF air support in the operation:

USAF will provide Arc Lights for beach and helicopter LZ preparation and to neutralize other targets. TACAIR assets will also be provided for LZ preps and CAP
immediately prior to and following the Beach and heli­borne landing. In addition, smoke will be laid on two separate lines to screen the amphibious and helicopter landings. TACAIR support will be provided throughout the remainder of the operation. Three FAC aircraft will be provided during the operation. One FAC will cover the operation area; one FAC will cover the western flank and one FAC with Naval Gunfire Spotter will cover the northern flank. A closed air zone will be placed around the operation area so that all fixed wing assets will be controlled by FACs. Two dump boxes will be provided for live ordnance drop in the event TACAIR is not able to expend in support of the operation. [LGBs] will be requested for artillery CAP.

TACAIR flew 22 LZ preparation sorties, including a smoke screen, and 55 TACAIR sorties were applied in a close air support role. Two battalions remained north of the My Chanh River overnight, but withdrew inside friendly lines on 25 May. An important factor in the overall success of TACAIR in this operation was the USAF FACs' overall familiarity with the maneuver and its objectives. By direction of General Truong, FACs and the Division ALO advisor had been present during the planning stages of the operation. [151]

The enemy, despite their recent heavy losses and the harassment of the VNMC counterattack, renewed their attacks on 25 May and soon the entire northern front was again engaged in heavy combat. Using human wave tactics and supported by artillery and mortar fire, the NVA crossed the My Chanh River. A fierce battle raged, often involving hand-to-hand combat. In many cases, the NVA used superior numbers to overrun VNMC positions. Still, the front did not break and reinforcements were quickly
shifted to plug gaps or weakened positions. Since most of the line held against the onslaught, the enemy masses were vulnerable to the waves of VNAF and U.S. TACAIR sorties that continually swept the area. FACs, in constant contact with ground commanders, directed the TACAIR and spotted for ARVN and NGF artillery fire. Meanwhile, additional FACs flew over hostile areas in attempts to discover the locations of enemy artillery positions. When pinpointed, the big 130mm guns were silenced by TACAIR strikes. The NVA, whose conventional attack strategy was effectively thwarted by the ground/air team, suffered heavy casualties.

By noon, 29 May, no enemy forces remained south of the My Chanh River. Although the battle was not over, the NVA forces had been humbled and forced back.\[152/\]

Within a span of 10 days, the allied forces had withstood two major enemy thrusts on the northern defense line. Clearly, with the availability of TACAIR and effectively-employed ARVN and NGF artillery support, resolute ground troops were fully capable of defeating the NVA. This awareness raised the morale of all RVNAF units in MR I.

Air operations continued to play a vital role in the MR I battle area at the start of June. In the north, VNMC and Ranger units cleared the area of the few NVA stragglers remaining after the NVA's end of May attack. In the west, Lam Son 72 operations continued to flush the enemy out of positions. Enemy ground attacks on the northern defensive line and against positions west of Hue were scattered and ineffective during the first week of June.\[153/\]
The enemy strove to build up supplies for attacks on the defensive fronts. They sought desperately to regain the upper hand and carry the battle toward Hue. Whenever the NVA troops massed for an attack, however, Arc Light, TACAIR, and artillery fire saturated the area. Friendly units repeatedly found evidence of the potent U.S. and VNAF bombing. On 9 June, for example, a BDA sweep of a B-52 strike area near FSB Bastogne discovered 60 enemy bodies and significant quantities of abandoned enemy supplies and equipment, including 14 crew served weapons, 24 individual weapons, 2,000 pounds of TNT, 712 rounds of 82mm mortar, 402 B-40 rockets, 10,000 rounds of AAA, and 20,000 rounds of AK-47 ammunition.

Just as Lam Son 72 pressured the enemy forces west of Hue, the VNMC continued their series of limited-objective operations to the north. On 8 June, the VNMC units pushed north 5 km into Quang Tri Province. The operation lasted two days and resulted in 235 enemy killed, 65 weapons captured (including one SA-7 missile), and three tanks destroyed. On 18 June, VNMC units again pushed north, this time progressing 8 km. The Marines reported 110 enemy KIA and 15 rockets and four SA-7 missiles captured.

The only major enemy-initiated action occurred on 21 June against friendly positions, along the My Chanh River, south and east of FSB Nancy. An enemy ground force of armor and infantry attacked VNMC positions for three days. However, supported by U.S. and VNAF TACAIR, and ARVN artillery, the VNMC lines held, and the enemy suffered severe losses, including 259 KIA, 123 WIA, 16 MIA.
In the western sector, airpower struck against enemy positions on 22 June. Ninety-three Arc Light sorties were flown in the eastern portion of the A Shau Valley and in areas west of Hue. Forty-four VNAF and 203 U.S. TACAIR sorties struck in the same target areas and destroyed 10 tanks, six 130mm guns, and nine trucks.

The RVNAF continued to set the tempo of combat activity. The enemy's repeated efforts to regain the initiative were totally ineffective. On 28 June, when MR I Hq initiated a counteroffensive to the north, NVA units were forced into a defensive role as allied troops advanced across the My Chanh River in an expansion of Operation Lam Son 72. Arc Light strikes and NGF pounded the advance area and waves of TACAIR flew overhead to provide close air support. The Airborne Division moved north along Route 1 in a zone extending to the high ground on the west. The VNMC pushed north, flanking the Airborne, on the coastal side of Route 1. The battle to retake Quang Tri Province was underway; the defense of Hue was over.
CHAPTER VII
THE AFTERMATH

Airpower and the revitalized South Vietnamese ground forces halted the NVA invasion of MR I and successfully maintained the defensive approaches to Hue. At the end of the invasion's first 90 days, the NVA/VC forces held most of the gains achieved in the first month of fighting. As the offensive moved into July, the question was no longer whether the enemy could be stopped, but how effectively the RVNAF could conduct an offensive campaign and eject the enemy from MR I.

Acting against the advice of U.S. advisors, the RVNAF concentrated their counterattack on retaking Quang Tri City. The VNMC and Airborne paratroopers chose to directly engage the determined defenders of the Citadel instead of isolating the city and securing the surrounding countryside. The decision proved costly. The Airborne and Marines suffered thousands of casualties during their two and one half month struggle to recapture Quang Tri's Provincial Capital, the mark of the NVA's major victory.

The battle was hard-fought and extremely costly to both sides. For example, during the two weeks ending 9 September, over 1,300 enemy were killed in the VNMC area of operation alone, while the Marines suffered a like number of wounded and over 240 killed. More than 60 percent of the Marine casualties resulted from the NVA's ability to target the Quang Tri City area with an almost constant mortar and artillery barrage. Daily,
over 800 rounds of 130mm poured in on friendly positions, with occasional daily peaks of 10,000 to 15,000 rounds of mixed incoming artillery.

U.S. airpower was not employed during the initial days of the RVNAF siege of Quang Tri City. The RVNAF desired to oust the NVA on their own and thus achieve a greater psychological impact. Also, 7AF was reluctant to employ its forces in the devastation of a South Vietnamese city. However, General Truong, after realizing that victory required U.S. air resources, requested and received the TACAIR and B-52 strikes that forced the NVA to give up the battered city. Finally, on 16 September, battle-weary Marines raised the red and gold South Vietnamese flag atop the Quang Tri Citadel to officially end one of the bloodiest episodes of the war. Despite this military accomplishment, the NVA still retained most of Quang Tri Province and began a steady shelling of friendly positions that was to continue for months.

In an assessment of the impact of air operations on the NVA invasion, General John W. Vogt, 7th Air Force Commander, saw the successful interdiction campaign as the key to the allied effort:

The thing that stopped them was the most thorough air interdiction program of the war. The weather was absolutely clear during the period 1-31 May. We saw the enemy attempting to move large convoys of trucks, towed weapons, ammunition carriers, and armored personnel carriers down the route packages of Highway 1 in broad daylight in the face of air superiority.
The 7th Air Force Plan during May called for continuous interdiction of the major travel routes in Quang Tri Province. FACs checked assigned surveillance areas on a daily basis. Any sign of enemy movement resulted in air strikes. U.S. Army General Frederick C. Weyand, Commander of USMACV as of 12 October 1972, cited the tremendous effectiveness of air-power in destroying enemy supplies and equipment, in interdicting the enemy staging and supply system, and in locating and destroying heavily camouflaged artillery. In his overall judgment of the campaign, General Weyand asserted that it appeared unlikely that the South Vietnamese forces could have stopped the invasion without the tremendous effectiveness of airpower. . . . [He could not] see how anybody in any service, could question the decisive role played by the fixed-wing gunships, TACAIR, and the B-52s. . . .

Thus, in MR 1, as in other areas of South Vietnam, air power and a revitalized SVN ground defense proved to be decisive factors in repelling the 1972 NVA offensive.
APPENDIX I

ENEMY INITIATED INCIDENTS, LOSSES (KIA), WEAPONS CAPTURED

MR I--JAN TO JUN 1972*

<table>
<thead>
<tr>
<th>Incidents</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacks by fire</td>
<td>19</td>
<td>18</td>
<td>57</td>
<td>130</td>
<td>89</td>
<td>204</td>
</tr>
<tr>
<td>Assaults</td>
<td>15</td>
<td>27</td>
<td>29</td>
<td>82</td>
<td>90</td>
<td>83</td>
</tr>
<tr>
<td>Ambushes</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Harassment (a)</td>
<td>80(28)</td>
<td>59(72)</td>
<td>178(57)</td>
<td>182(112)</td>
<td>229(171)</td>
<td>269(173)</td>
</tr>
<tr>
<td>Intimidation (b)</td>
<td>26</td>
<td>62</td>
<td>40</td>
<td>34</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>Sabotage</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Propaganda</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AA Fire</td>
<td>49</td>
<td>0</td>
<td>33</td>
<td>18</td>
<td>58</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
<td>173</td>
<td>345</td>
<td>446</td>
<td>491</td>
<td>622</td>
</tr>
</tbody>
</table>

(a) Attacks by fire of less than 20 rounds and/or small arms harassing fire, as defined by MACV Dir 381-21, in parentheses.

(b) Formerly Terrorism (see MACV Dir 335-2, dated 31 July 1971).

<table>
<thead>
<tr>
<th>KIA</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1592</td>
<td>1455</td>
<td>2826</td>
<td>10531</td>
<td>8353</td>
<td>6534</td>
</tr>
</tbody>
</table>

WEAPONS

<table>
<thead>
<tr>
<th>Crew served</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>553</td>
</tr>
<tr>
<td>148</td>
<td>687</td>
</tr>
</tbody>
</table>

*Periodic Intelligence Report (PERINTREP) (S) Dir/Intl, U.S.MACV, Jan to Jun 1972 (Monthly reports).
## APPENDIX II
### ATTACK SORTIES FLOWN--MR I

<table>
<thead>
<tr>
<th>Service/Type Acft</th>
<th>March</th>
<th>April</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td><strong>USAF</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-52</td>
<td>12</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>F-4</td>
<td>14</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td><strong>USN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-4</td>
<td>--</td>
<td>6</td>
<td>--</td>
</tr>
<tr>
<td>A-6</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>A-7</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>F-4</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td><strong>VNAF</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-1</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>A-37</td>
<td>26</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>52</td>
<td>61</td>
<td>49</td>
</tr>
</tbody>
</table>

**SOURCE:** USMACV Strike Computer, MACDO-24, SEADAB, Subprogram 475. Computer retrieval for MR I based on all services and attack mission functions--strike, flak suppress, air interdiction, close air support, heavy bombardment, and munitions delivery.
APPENDIX III

USAF COMBAT LOSSES IN MR I

1 April-30 June 1972

<table>
<thead>
<tr>
<th>Date</th>
<th>Zulu Time</th>
<th>A/C Type</th>
<th>Mission Function</th>
<th>Cause of Hit</th>
<th>Crew Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Apr</td>
<td>0724</td>
<td>O-2A</td>
<td>FAC</td>
<td>Automatic Weapons (Unknown Type)</td>
<td>1 R</td>
</tr>
<tr>
<td>2 Apr</td>
<td>1022</td>
<td>EB-66</td>
<td>ECM</td>
<td>SA-2</td>
<td>5M/1R</td>
</tr>
<tr>
<td>3 Apr</td>
<td>0800</td>
<td>OV-10</td>
<td>SAR</td>
<td>SA-2</td>
<td>1M/1R</td>
</tr>
<tr>
<td>6 Apr</td>
<td>0939</td>
<td>HH-53</td>
<td>SAR</td>
<td>Ground Fire</td>
<td>6 M</td>
</tr>
<tr>
<td>7 Apr</td>
<td>0308</td>
<td>OV-10</td>
<td>FAC</td>
<td>SA-2</td>
<td>2 M</td>
</tr>
<tr>
<td>28 Apr</td>
<td>0505</td>
<td>F-4E</td>
<td>FAC</td>
<td>SA-2</td>
<td>2 R</td>
</tr>
<tr>
<td>1 May</td>
<td>0852</td>
<td>O-2A</td>
<td>FAC</td>
<td>SA-7b</td>
<td>1 R</td>
</tr>
<tr>
<td>1 May</td>
<td>1052</td>
<td>A-1H</td>
<td>SAR</td>
<td>SA-7</td>
<td>1 R</td>
</tr>
<tr>
<td>2 May</td>
<td>0223</td>
<td>A-1E</td>
<td>SAR</td>
<td>SA-2</td>
<td>1 R</td>
</tr>
<tr>
<td>2 May</td>
<td>0223</td>
<td>A-1G</td>
<td>SAR</td>
<td>SA-2</td>
<td>1 R</td>
</tr>
<tr>
<td>5 May</td>
<td>0410</td>
<td>F-4E</td>
<td>FAC</td>
<td>AAA</td>
<td>2 R</td>
</tr>
<tr>
<td>19 May</td>
<td>0800</td>
<td>OV-10</td>
<td>FAC</td>
<td>Ground Fire</td>
<td>2 M</td>
</tr>
<tr>
<td>22 May</td>
<td>0118</td>
<td>F-4D</td>
<td>STK</td>
<td>SA-2</td>
<td>2 R</td>
</tr>
<tr>
<td>25 May</td>
<td>0805</td>
<td>OV-10</td>
<td>FAC</td>
<td>SA-7</td>
<td>2 R</td>
</tr>
<tr>
<td>26 May</td>
<td>0435</td>
<td>F-4D</td>
<td>FAC</td>
<td>AAA</td>
<td>2 R</td>
</tr>
<tr>
<td>18 Jun</td>
<td>1333</td>
<td>AC-130A</td>
<td>AR</td>
<td>SA-7</td>
<td>11M/3R</td>
</tr>
<tr>
<td>20 Jun</td>
<td>0725</td>
<td>A-1J</td>
<td>SAR</td>
<td>AAA</td>
<td>1 R</td>
</tr>
<tr>
<td>26 Jun</td>
<td>1130</td>
<td>O-2A</td>
<td>FAC</td>
<td>SA-7</td>
<td>2 M</td>
</tr>
<tr>
<td>29 Jun</td>
<td>1045</td>
<td>OV-10</td>
<td>FAC</td>
<td>SA-7</td>
<td>1K/1R</td>
</tr>
<tr>
<td>30 Jun</td>
<td>1008</td>
<td>OV-10</td>
<td>FAC</td>
<td>Ground Fire</td>
<td>1 M</td>
</tr>
</tbody>
</table>

b. First loss attributed to SA-7.

SOURCE: USMACV, MACDO-21, Working Paper, "Hits and Losses for USAF aircraft, 1 Jan 72 to 1 Jul 72" (C). Data based on SEADAB, 7AF Incident and Damage Rpt, and logs from 7AF Logistics Control Center.
FOOTNOTES

CHAPTER I

1. Intvw (S), Capt David K. Mann with Gen John W. Vogt, Jr., Deputy COMUSMACV and Commander, 7AF, 12 Nov 72. (Hereafter cited as Gen Vogt Intvw.)

CHAPTER II


3. 7AF, Daily Intelligence Briefing (DIB), 9 Apr 72 (S/NF). (Hereafter cited as 7AF, DIB.)


5. 7AF, DIB, 14 Apr 72 (S/NF).


7. USMACV, "PERINTREP," Mar 72 (S/NF).


9. USMACV, "PERINTREP," Jan 72, Feb 72, Mar 72 (S/NF).


11. Information in this paragraph is based on U.S. Intelligence Sources: USMACV, "PERINTREP" and 7AF Weekly Air Intelligence Summary (WAIS) for the period Jan to Mar 72 (S/NF).

12. Appendix 1 (S).

13. USAF Response (S), pp. 8-15. Chapter II of this study provides a review of intelligence estimates of the military situation from unclassified and classified sources.
14. USMACV, J-3 Historical Summary, March 72, "Combat Operations, MR I," 12 Apr 72 (C). (Hereafter cited as J-3 Summary.) Locations of ARVN Divisions: 1st Div. in Thua Thien Province, Hq at Camp Eagle near Hue; ARVN 2d Div. in Quang Nam, Quang Tin, and Quang Ngai Provinces, Hq at Chu Lai south of DaNang; and 3d Div in Quang Tri Province, Hq at Quang Tri Combat Base near Quang Tri City.


16. Debriefing Rpt by Col Hiliman Dickinson (USA), Senior Advisor 1st Inf Div (ARVN), inclusive dates: 23 May 71 to 21 May 72 (C/NF), p. 12.

17. Ibid.

18. 7AF, Commando Hunt VII, Jun 72, (S/NF), p. 15.

19. PACAF, "Air Intelligence Review" (AIR), PACAIR 2-72, 7 Apr 72 (S/NF).

20. 7AF, Commando Hunt VII, Jun 72 (S/NF), p. 231.


22. 7AF, Commando Hunt VII, Jun 72 (S/NF), p. 148.

CHAPTER III

23. USMACV, "PERINTREP," Apr 72 (S/NF), p. 1. Two divisions attacked Quang Tri Province and the third made an easterly push on Hue in Thua Thien Province.

24. Appendix 2 (C). This source provides a breakdown of the flown attack sorties by service during the first week of the offensive.


26. USMACV, MACJ-3 (Command Center), "Duty officer Log, 30 Mar to 6 Apr 72 (C). (Hereafter cited as MACV Log); and CORDS Rpt, Annex A (C), pp. 1-4.

27. Memo for the Record (C), Maj Jim R. Joy, USMC, Senior Advisor, Bde 147, VNMC, subj: After Action Report, 30 Mar-2 Apr 72, 10 Apr 72, pp. 3-4. (Hereafter cited as VNMC Rpt.) The ground beacon provided a fixed reference point for USAF fixed-wing gunship fire against enemy forces invisible from the air. Range and bearing were passed on to the gunship's fire control.
computer which determined an offset aiming point. The tactics and proce- 
dures of "Combat Rendezvous," the main beacon system used for both 
AC-119 and AC-130 aircraft in MR I, is discussed in Project CHECO Report, 
Pave Mace/Combat Rendezvous.

28. Ibid., p. 5.

29. AFAG, 3d ARVN Division ALO Advisor (Maj Brookbank), Special Rpt, "VNAF 
TACS and the Fall of Quang Tri," 31 Jul 72 (S/NF), p. 4. (Hereafter cited 
as Brookbank Rpt.) Combat Skyspot is an all weather day or night ground 
radar controlled bomb drop system. All Arc Light sorties utilized the Skyspot 
procedure which is also a backup for TACAIR strikes.

30. USMACV, MACJ3-08, "Report of Significant Activities," 2 Apr 72 (C), 
p. 1. This is a special report prepared for the American Ambassador, Saigon, 
RVN. (Hereafter cited as MACV, RSA.)


32. MACV, RSA, 4 Apr 72 (C), pp. 1-4.

33. CAS Rpt, FVS 29,211, 7 Apr 72 (S/NF), p. 1; and Appendix 2, 2 April- 
5 April 72 (C).

CHAPTER IV

34. CAS Rpt, FVS-29,197, 5 Apr 72 (S/NF), p. 1.

35. USMACV, MACJ3-08, "U.S., RVNAF and FWMAF Order of Battle," 17 Apr 72 
(C); and Intvw (C), Capt David K. Mann with Maj Jim R. Joy, USMC, Senior 
Advisor, 147th Bde, VNMC, 11 Jun 72. (Hereafter cited as Joy Intvw.)

After Action Report prepared by Maj W. T. Sweeney, USMC. (Hereafter cited 
as Sweeney Rpt); RCAD, "Employment of Ranger Command in MR I," 12 Apr 72 
(C). Memorandum for the Director and Special Assistant to COMUSMACV. 
(Hereafter cited as "Ranger Command"); and ACAD, "Combat Operations After 
Action," 8 Jun 72 (C). Rpt of the 1st Armor Bde for the period 1 Apr- 
2 May 72. (Hereafter cited as 1st Armor Bde Rpt.)

37. Rpt, Brig Gen Stan L. McClellan, Chief, AAG, to Brig Gen George S. 
Patton, Asst Commandant, USA Armor School, Fort Knox, Ky, subj: Activities 
of the 20th Tank Regiment and Enemy Tactics and Training, 22 May 72 (C). 
Period of Rpt is 31 Mar-28 Apr 72.


42. Memo for the Record (C), G-2 Reconnaissance Advisor to Senior Marine Advisor, subj: Easter Offensive: personal evaluation 25 Apr 72. (Hereafter cited as Marine Evaluation.)


44. Ibid., p. 7.

45. Ibid.

46. Appendix 3 (C).

47. Intvw (C), Capt David K. Mann with Maj Kenneth E. Ernest, 7AF, JRRC, 20 Aug 72; and JRRC Mission Rpt, Bat 21 (S).


50. Ibid., p. 8.

51. Sub Unit One, 1st Air and Naval Gunfire Liaison Company (ANGLICO), "Command Chronology for the Period 1-30 Apr 1972," 30 May 72 (C), p. 6. (Hereafter cited as ANGLICO Rpt.)

52. Ibid., p. 7.

53. Intvw (C), Capt David K. Mann with Capt Ron Skow, USMC, Gunfire Liaison Officer (Hue), 13 Jun 72.

54. Intvw (C), Capt David K. Mann with Maj Sidletsky, Asst Opns Officer, 20 TASS, 16 Jun 72. (Hereafter cited as Sidletsky Intvw.)

55. CAS Rpt, FVS-29,231, 9 Apr 72 (S/NF).

56. CAS Rpt, FVS-29,243, 9 Apr 72 (S/NF).
57. 7AF, DIB, 14 Apr 72 (S/NF); and CAS Rpt, FVS-29,276, 13 Apr 72 (S/NF).

58. CAS Rpt, FVS-29,203, 6 Apr 72; CAS Rpt, FVS-29,211, 7 Apr 72 (S/NF); and Monthly Operations Summary (MOS), DCS OPNS, Hq 8AF, Apr 72 (S).

59. CAS Rpt, FVS-29,248, 11 Apr 72 (S/NF).

60. MACV Log, 8 Apr-9 Apr 72, item 49 (C).

61. Marine Evaluation (C), p. 5.

62. The MK-36 destructor mine is a 560 pound fragmentation and blast type of area denial mine which can be delivered by F-4 aircraft at low level or using high angle dive. Its MK-75 magnetic influence fuze is activated when the target begins to withdraw from the range of influence of the fuze.


64. Ibid., p. 12.


66. 7AF, DIB, 4 Apr 72 (S/NF).

67. CAS Rpt, FVS-29,243, 9 Apr 72 (S/NF).

68. USMACV, MACOI, Wire Service Copy, Intvw, Craig Whitney, New York Times Correspondent with Lt Col John P. O'Gorman, Cmdr, 421 TFS (DaNang AB), 7 Apr 72 (U).

69. CAS Rpt, FVS-29,306, 17 Apr 72 (S/NF); and 7AF, DIB, 15 Apr 72 (S/NF).

70. 7AF, DIB, 6 Apr-26 Apr 72 (S/NF).


72. Sweeney Rpt (C), p. 5.

73. Sidletsky Intvw (C).

74. 20th TASS (DaNang AB), Historical Data Record, Jan-Mar 72 (C), pp. 6-7.

75. 14th TRS (Udorn RTAFB), Historical Data Record, Mar-Jun 72 (C).

77. Sweeney Rpt (C), p. 2.
78. Brookbank Rpt (S/NF), p. 11.

CHAPTER V

81. USMACV, PERINTREP, Apr 72 (S/NF), p. 1; and CAS Rpt FVS-29,446, 27 Apr 72 (S/NF).
82. Joy Intvw (C); and VNMC Rpt, 3 May 72 (C), pp. 1-5.
84. Ibid.
85. 7AF, DIB, 29 Apr 72 (S/NF); and CORDS Rpt, Annex A (C), p. 17.
86. Intvw (C), Capt David K. Mann with Maj Dennis M. Biggs, I-DASC, Hue, Senior Duty Officer, 14 Jun 72. (Hereafter cited as Biggs Intvw.)
88. VNMC Rpt, 3 May 72 (C), p. 8.
89. CAS Rpt, FVS-29,494, 30 Apr 72 (S/NF). The SA-7 is a light weight, portable, ground launched IR homing missile system. The missile weight is 20.3 lbs. Warhead total weight is 2.6 lbs with approximately 7 lbs of explosive.
90. USAF Tactical Fighter Weapons Center, Tactical Analysis Bulletin, "SA-7 Tactics Conference Report," pp. 1-27; and "SA-7 Update," pp. 28-29 (S/NF), 1 Jul 72. These reports identify the SA-7 threat, available countermeasures, the mission impact, and recommended tactics for jet fighters, slow FACs, tactical airlift, gunships, and helicopter type aircraft.
93. CAS Rpt, FVS-29,472, 29 Apr 72 (S/NF).

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94. 1st Armor Bde Rpt (C), p. 32.
95. CAS Rpt, FVS-29,478, 29 Apr 72 (S/NF).
96. Msg 010750Z Aug 72; from AMCONSUL DaNang to AMEMBASSY Saigon, subj: Convoy of Death - Quang Tri Province (C).
97. VNMC Rpt, 3 May 72 (C), p. 13; and Joy Intvw (C).
98. J-3 Summary, 17 May 72 (C), p. 25.
100. 1st Armor Bde Rpt (C), p. 32.
101. Biggs Intvw (C).
103. Msg 011911Z May 72; from OL-A, 3 ARRG to Hq ARRS; OPREP 3 (S).
105. Msn Rpt, 37ARRS, Msn No. A-3-046, Jolly Green 71, 1 May 72 (C).
106. Msn Rpt, 37 ARRS, Msn No. A-3-046, Jolly Green 65, 1 May 72 (C).
107. Msg 010905Z May 72 (C) and Msg 040947Z May 72 (S), from OL-A, 3 ARRG to Hq ARRS; OPREP 3; and Historical Data Record, I DASC/I TASD, 1 Apr-30 Jun 72 (S). Although the initial reports indicated 129 saves, a later msg changed the official total to 132. The breakdown was as follows: U.S. personnel, 80 (61 Army, 10 Marine, 7 Air Force, 1 Navy, 1 Civilian); ARVN personnel, 51; and 1 Korean civilian.
108. Memo for the Record (C), Maj Kenneth L. Teel, USA, Senior Advisor, 5th Ranger Group, subj: Activities Rpt, 5th Ranger Group, 19 Apr-4 May 72. (Hereafter cited as Teel Rpt.)
109. Ibid.
110. VNMC Rpt, 3 May 72 (C), p. 20.
111. MACV Log, 2 May-3 May (C), item 31.

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114. CORDS Rpt (C), p. 3.

115. CAS Rpt, FVS-29,541, 3 May 72 (S/NF).


117. VNMC Rpt (C), 3 May 72; 1st Armor Bde Rpt (C); "Ranger Command" (C); Brookbank Rpt (S/NF); ANGLICO Rpt, 1-30 Apr 72 (C); CORDS Rpt (C); and Gen Vogt Intvw (S). These sources all make reference to the breakdown of ARVN 3d Division command and control.


119. CAS Rpt, FVS-29,512, 1 May 72 (S/NF).

CHAPTER VI

120. CAS Rpt, FVS-29,839, 26 May 72 (S/NF), p. 1; and 7AF, DIB, 6 May 72 (S/NF).

121. USMACV, "PERINTREP," May 72 and Jun 72 (S/NF).

122. CAS Rpt, FVS-29,578, 5 May 72 (S/NF).

123. 7AF, DIB, 4 May 72 (C); and Joy Intvw (C).


125. Historical Data Record, I-DASC/I TASC, 1 Apr-30 Jun 72 (S).

126. AFAG, "Staff Digest," 21-27 May 72 (C), p. 2-1.

127. Biggs Intvw (C).

128. Gen Vogt Intvw (S).

129. 7AF, Command Briefing, 29 Nov 72 (S), p. 11.

130. Gen Vogt Intvw (S).

131. 7AF, SDO Night Mission Summary, 2-3 May 72 (S).

132. CAS Rpt, FVS-29,593, 6 May 72 (S/NF).

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UNCLASSIFIED

133. 7AF, SDO Day Mission Summary, 6 May 72 (S).

134. CAS Rpt, FVS-29,616 and 622, 9 May 72 (S/NF).

135. Gen Vogt Intvw (S).

136. Ltr, from Senior Marine Advisor to Cmr, FRAC, subj: location and destruction of enemy artillery, 17 Jun 72 (C).

137. Intvw (C), Capt David K. Mann with Maj James Beaumaster, MACDO-231, Operations Staff Officer, 18 Aug 72; and Gen Vogt Intvw (S).

138. Intvw (C), Capt David K. Mann with Col Robert Hyatt, USA, Senior Advisor, VN Airborne Div, 13 Jun 72.

139. CAS Rpt, FVS-29,675, 13 May 72 (S/NF); and Joy Intvw (C).

140. After Action Rpt, ALO to VNMC, subj: Operation MELLWOOD, 20 May 72 (C/NF).

141. 7AF, DIB, 15 May 72 (S/NF).

142. Significant Activities Rpt, Col George A. Millener, Jr., USA, Senior Advisor, 1st ARVN Div to CG, FRAC, 10 Jun 72 (C), p. 7.

143. History of Task Force Alpha, 1 Apr-30 Jun 72 (S), pp. 15-16. Task Force Alpha was the filter point for sensor information. It was organized in 1967 under the Command of 7AF at Tan Son Nhut AB and later moved to Nakhon Phanom RTAFB, Thailand.

144. Msg (S), 100700Z Jun 72, 7AF to COMUSMACV, subj: Acoustic Sensor Gun Locating; Msg (S), 111130Z Jun 72, 7AF to TFA, subj: ACUGUN Sensor Implant; Msg (S), 220745Z Jun 72, TFA to 7AF, subj: Acoustic Gun Locator System Limitations/Capabilities.

145. History of Task Force Alpha, 1 Apr-30 Jun 72 (S), p. 33.

146. Gen Vogt Intvw (S).

147. MACV Log, 20-21 May (C), item 23; and CAS Rpt, FVS-29,792, 22 May 72 (S/NF).


149. After Action Report, ALO to VNMC, subj: Operation SONG THANH 6/72, 29 May 72 (C/NF).

151. Intvw (C), Capt David K. Mann with Maj Loren L. Buyher, VNMC ALO Advisor, 11 Jun 72.

152. CAS Rpt, FVS-29,868, 29 May 72 (S/NF).


154. CAS Rpt, Military Situation in South Vietnam, 8-14 Jun 72 (S).

155. Ibid., and USMACV, DO Historical Summary for June 1972, MACDO-43, 18 Jul 72 (S), p. 23. (Hereafter cited as DO Summary, Jun 72.) Data derived from the Combat Operations section of this rpt is classified no higher than confidential.

156. DO Summary, Jun 72 (C), p. 24.

157. CAS Rpt, 231600Z Jun 72 (S).


159. Gen Vogt Intvw (S).

160. 7AF, Command Briefing, 29 Nov 72 (S), p. 14.

161. Gen Vogt Intvw (S).

162. Ibid.

# GLOSSARY

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>Antiaircraft Artillery</td>
</tr>
<tr>
<td>ABCCC</td>
<td>Airborne Command and Control Center</td>
</tr>
<tr>
<td>ABF</td>
<td>Attack by Fire</td>
</tr>
<tr>
<td>ACUGUN</td>
<td>Acoustic Gun Location System</td>
</tr>
<tr>
<td>ALO</td>
<td>Air Liaison Officer</td>
</tr>
<tr>
<td>ANGLICO</td>
<td>Airborne Naval Gunfire Liaison and Coordination Area of Operation</td>
</tr>
<tr>
<td>AO</td>
<td>Area of Operation</td>
</tr>
<tr>
<td>ARVN</td>
<td>Army of the Republic of Vietnam</td>
</tr>
<tr>
<td>BDA</td>
<td>Bomb Damage Assessment, Battle Damage Assessment</td>
</tr>
<tr>
<td>COMUSMACV</td>
<td>Commander, U.S. Military Assistance Command, Vietnam</td>
</tr>
<tr>
<td>CORLOC</td>
<td>Cross Correlation for Target Location System</td>
</tr>
<tr>
<td>DASC</td>
<td>Direct Air Support Center</td>
</tr>
<tr>
<td>DMZ</td>
<td>Demilitarized Zone</td>
</tr>
<tr>
<td>FAC</td>
<td>Forward Air Controller</td>
</tr>
<tr>
<td>FEBA</td>
<td>Forward Edge of Battle Area</td>
</tr>
<tr>
<td>FSB</td>
<td>Fire Support Base</td>
</tr>
<tr>
<td>FSCC</td>
<td>Fire Support Coordination Center</td>
</tr>
<tr>
<td>IR</td>
<td>Infrared</td>
</tr>
<tr>
<td>JGS</td>
<td>South Vietnam Joint General Staff</td>
</tr>
<tr>
<td>JRCC</td>
<td>Joint Rescue Coordination Center</td>
</tr>
<tr>
<td>KBA</td>
<td>Killed by Air</td>
</tr>
<tr>
<td>KIA</td>
<td>Killed in Action</td>
</tr>
<tr>
<td>LGB</td>
<td>Laser Guided Bomb</td>
</tr>
<tr>
<td>LORAN</td>
<td>Long Range Navigation</td>
</tr>
<tr>
<td>LZ</td>
<td>Landing Zone</td>
</tr>
<tr>
<td>MIA</td>
<td>Missing in Action</td>
</tr>
<tr>
<td>MR</td>
<td>Military Region</td>
</tr>
<tr>
<td>NGF</td>
<td>Naval Gunfire</td>
</tr>
<tr>
<td>NVA</td>
<td>North Vietnamese Army</td>
</tr>
<tr>
<td>NVN</td>
<td>North Vietnam(ese)</td>
</tr>
<tr>
<td>PF</td>
<td>Popular Forces</td>
</tr>
<tr>
<td>PW</td>
<td>Prisoner of War</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>QTCB</td>
<td>Quang Tri Combat Base</td>
</tr>
<tr>
<td>RECCE</td>
<td>Reconnaissance</td>
</tr>
<tr>
<td>RF</td>
<td>Regional Forces</td>
</tr>
<tr>
<td>RVN</td>
<td>Republic of Vietnam</td>
</tr>
<tr>
<td>RVNAF</td>
<td>Republic of Vietnam Armed Forces</td>
</tr>
<tr>
<td>SAM</td>
<td>Surface-to-Air Missile</td>
</tr>
<tr>
<td>SAR</td>
<td>Search and Rescue</td>
</tr>
<tr>
<td>SVN</td>
<td>South Vietnam(ese)</td>
</tr>
<tr>
<td>TACAIR</td>
<td>Tactical Air</td>
</tr>
<tr>
<td>TACP</td>
<td>Tactical Air Control Party</td>
</tr>
<tr>
<td>TACS</td>
<td>Tactical Air Control System</td>
</tr>
<tr>
<td>TASS</td>
<td>Tactical Air Support Squadron</td>
</tr>
<tr>
<td>TIC</td>
<td>Troops in Contact</td>
</tr>
<tr>
<td>TOC</td>
<td>Tactical Operations Center</td>
</tr>
<tr>
<td>VC</td>
<td>Viet Cong</td>
</tr>
<tr>
<td>VNAF</td>
<td>South Vietnamese Air Force</td>
</tr>
<tr>
<td>VNMC</td>
<td>South Vietnamese Marine Corps</td>
</tr>
<tr>
<td>WIA</td>
<td>Wounded in Action</td>
</tr>
</tbody>
</table>