



**UH-1B TOW in flight near Cam Ranh Bay**

### **Second Regional Assistance Command (II Corps)**

I am debtly indebted to VHCMA member R.D.(Hoagie)Hogan crew chief of Gladiator 929, 57th AHC at Camp Holloway, Pleiku, RVN, (70-72), 57<sup>th</sup> AHC members Bob Thibeault and Pat Cahill who dug out information in the National Archives, and lastly Rick Vogel who was the CE on Gladiator 715.

The 57<sup>th</sup> flew FOB missions during the early winter months of 1971. These missions indicated massive numbers of NVA troops, supplies and for the first time, tanks, moving towards Kontum from the tri-border. Now it seemed that almost any team insertion resulted in a premature extraction, and almost always it was "hot".

The "Spring Offensive" in the central Highlands began in March as two NVA divisions led by T-64 tanks attacked from the north with their objective, Kontum. The ARVN bases between the tri-border and Kontum were either overrun or surrounded within the first few days. Both the Gladiators and the Cougars guns flew extensive support missions north of Kontum including emergency med-evacs, re-supply, and gun support. It seemed the Cougars had at least one ship in the air at all times. Over QL-14, the road from Dak To to Kontum, four 57th ships were shot down within two weeks.

The main attack on Kontum began 14 Apr. as ARVN paratroopers and South Korean "ROKS" fought desperately to keep the road open from Pleiku for resupply. At the height of the fighting, the order came down that any area, with the exception of Kontum city was a "free fire zone". Both Gladiator and Cougar crews flew non-stop missions while receiving intense enemy fire in the all out effort to save the city. At one point, Gladiator crews flew special B model Hueys sent by Brigade that were equipped with TOW missiles to use against the NVA tanks. There were no FOB missions...the men had all the action they wanted just outside their own compound, as it was house to house combat in Kontum.

During April, both Tan Can and Dak To fell to the NVA. Just prior to being overrun, a Gladiator was on a mission to Tan Can to pick up some advisors. The ship was shot down, and amazingly, 13 days later, two of the crewmembers walked into Kontum. They had escaped, evaded, and were surrounded by the NVA for nearly half a month. It happened on 04/24/1972 at UTM grid coordinates: ZB001219.

Crew Members:

P WO1 ELLEN WADE LYNN BNR (Body not returned)  
PP 1LT JONES JOHNNY MACK BNR  
C SP5 VOGLE RICKY V RES (Rescued)  
C SP4 LEA CHARLES M RES (Rescued)  
AC 1LT HUNSICKER JAMES EDWARD BNR

Passengers:

MAJ CARTER GEORGE WILLIAM, AR, PX, BNR;

On the evening of April 23, 1972, Capt. Kenneth J. Yonan accompanied his ARVN counterpart to a water tower located on the northwestern edge of the Tanh Canh base camp compound near Dak To, Kontum Province, South Vietnam. Yonan was an advisor assigned to Advisory Team 22, MACV, and was assisting the ARVN 42nd Regiment based there. At about 0530 hours on April 24, Capt. Yonan was still in the water tower when Viet Cong attacked the camp perimeter. Although tanks fired at and hit the water tower, two other advisors spoke to Capt. Yonan after the firing and Yonan reported that he was not hit and planned to join the other advisors when it was safe to do so. Radio

contact was maintained with Yonan until 0730 hours. The other U.S. advisors began escape and evasion operations from the beleaguered compound.

Team 22 Advisors Maj. George W. Carter, Maj. Julius G. Warmath, and Capt. John P. Keller, were extracted by helicopter. The aircraft was a UH1H from the 57<sup>th</sup> Assault Helicopter Company, 52nd Aviation Battalion, 17th Aviation Group, (serial #69-15715) and was flown by Lt. James E. Hunsicker. WO Wade L. Ellen was the co-pilot of the chopper, and SP4 Charles M. Lea, and SP5 Ricky V. Vogle were crewmen. Other persons extracted included 1Lt. Johnny M. Jones, from the 52nd Aviation Battalion; SP4 Franklin Walter H. Ward, unit not specified. The helicopter departed to the northwest from Dak To, but was apparently hit by enemy fire, as it crashed and burned about 500 meters from the end of the runway. Because of the rolling terrain, personnel at the airfield did not see the aircraft impact. A pilot flying over the wreckage reported that the helicopter was burning, but they could see no survivors. It was later discovered that five people did survive the crash - Warmath, Keller, Vogle, Ward and Lea. According to their statements, Hunsicker, Ellen, Zollicoffer, Jones and Carter were all dead.

At the end of April massive B-52 strikes around Kontum began to have their effect on the NVA, and the seige of the city ended in early May. But the NVA's foothold in the Central Highlands had been established and would not be lost. That summer, a portion of a Cav unit that was standing down formed a 3rd slick platoon with the Gladiators, making the 57th the largest AHC of its type in Viet Nam.

### **UH-1B TOW Tank Killers**

**Scott Fenwick** contributed the Marine Corps Command & Staff College work submitted by MAJ John C. Burns in 1994, as part of the requirements for the Degree of Master of Military Studies. The work is entitled XM-26 TOW: BIRTH OF THE HELICOPTER AS A TANK BUSTER. While selecting chapters and using only a portion of John's work, some the references to those portions are included to assist anyone interested in further study.

As you read the report, you may wonder why the most advanced tank-killing system was mounted on older UH-1B gunships, while the older and less effective SS-11 system was mounted on UH-1C models that were upgraded to UH-1M as soon as they arrived in-country. The reason is that the Charlie-model gunships deployed from Ft. Bragg belonged to the US Government, while the UH-1B gunships deployed with the TOW system actually belonged to Hughes.

### **EXECUTIVE SUMMARY**

Title: XM-26 TOW: BIRTH OF THE HELICOPTER AS A TANK BUSTER

Author: Major John C. Burns, United States Army

Thesis: The successful development and employment of the XM-26 TOW in Vietnam established the attack helicopter as a credible anti-tank weapons system on the modern battlefield.

Background: The present day anti-tank missions and weapons of the United States Army evolved from the introduction of the armored tank during World War I. The unparalleled firepower, mobility and endurance of the tank led to radical changes in defensive strategy, tactics and equipment. In the early 1960s, the Army determined that maneuver forces operating beyond the range of their organic ground-based firepower require accompanying firepower in order to accomplish their assigned missions. Army studies of the armed helicopter concept concluded that helicopters equipped with anti-tank missiles provided a highly effective armor-defeating capability that is not restricted by surface obstacles. The XM-26 TOW armament subsystem clearly demonstrated the key to the successful employment of the attack helicopter in the anti-tank role was the development of an accurate anti-tank guided missile system capable of providing a high first-round hit probability at ranges in excess of 2,000 meters. With the development of the XM-26 TOW, the Army developed a stabilized sight system that corrected the major problem involved in firing missiles from helicopters. The 1972 North Vietnamese Army's all-out, tank supported invasion of South Vietnam provided the Army a unique opportunity to test the airborne TOW in combat. The success of the airborne TOW in South Vietnam's Military Region II proved the value of the helicopter as an anti-tank killer.

Conclusion: The Army used the publicity from the success of the XM-26 TOW in Vietnam to sell Congress on the Advanced Attack Helicopter Program and accelerate the development of the TOW/COBRA to counter the Soviet tank threat in Europe.

## **CHAPTER TWO**

### **DEPLOYMENT OF THE 1ST COMBAT AERIAL TOW TEAM TO VIETNAM**

The 1st Combat Aerial TOW Team, Vietnam was designated and deployed to the Republic of Vietnam on 22 April 1972. The original team was engaged in combat until 20 June 1972. The name awarded the team by the 1st Aviation Brigade denoted its association with that unit as being the first time in the history of the United States Army

that a heliborne TOW system was employed in combat against an armored enemy. 1

The team was originally organized to train and participate in United States Army Combat Developments Experimentation Command (USACDEC) Experiment 43.6 (Attack Helicopter, Daylight Defense) Phase 111.2. The XM-26 Visual Acquisition Sight System was one of three Systems to be evaluated. Three Aircraft Commanders and two crew chiefs were selected from the 155th Aviation Company USACDEC Fort Ord, California. Additionally, three pilots/gunners were assigned from the 7th Squadron, 1st Cavalry Regiment (Black Hawks), Fort Knox, Kentucky. USACDEC assigned the Team OIC from within the command. Training began during the fall of 1971 and continued through February 1972 at Hunter Liggett Military Reservation, California. Identified as 43.6 Side Experiment VASE (Visual Acquisition System Experiment: a comparison of three heliborne sighting Systems in target acquisition and simulated TOW firings), a total of 108 record trials were completed during this period.<sup>3</sup> In February 1972, after an initial analysis of results, USACDEC recommended a repeat of the VASE experiment, utilizing only the XM-26 TOW Sight System as integrated into the UH-1B helicopter, at another location. Sites selected for the follow-on test included: Fort Riley, Kansas; Fort Lewis, Washington; and Fort Knox, Kentucky. As a result of commitments at Fort Riley, USACDEC made the decision to conduct the initial experiment at Fort Lewis with subsequent trails scheduled for Fort Knox. Over 85 exploratory and record trials were conducted at Fort Lewis during the period of 6 March to 16 April 1972.

On 14 April 1972, the USACDEC 43.6 contingent at Fort Lewis received a JCS Warning Order directing preparation for deployment of the entire system to the Republic of Vietnam on 21 April 1972 to include the two test UH-1B aircraft.<sup>5</sup> Classified as an extension of Experiment 43.6 under combat conditions, the armament subsystem, to include TOW simulator trainer (XM-70), launching pods, missiles, XM-2G Sight, and all associated test equipment, were prepared for air movement to Vietnam. Designated to accompany the equipment and the TOW team personnel were technical representatives from Hughes Aircraft Company, Bell Helicopter, and US Army Missile Command (MICOM) 6 A last minute replacement pilot/gunner was obtained from the Advanced Attack Helicopter Program at US Army Aviation Systems Command, St. Louis, Missouri.<sup>7</sup>

The order to have the experimental airborne TOW system on the way to Vietnam, ready to fight, in 7 days sparked one of the most unique deployments ever accomplished by the Army.<sup>8</sup> It was indeed a monumental task done in record time through a well-coordinated team effort headed by COL Robert W. Huntzinger, the TOW Project Manager. Only part of the XM-26 equipment was installed on the UH-1B helicopters participating in the 43.6 experiment at Fort Lewis, the remainder having been placed in storage at the Hughes Aircraft plant in Culver City, California. The TOW-peculiar hardware was removed from the helicopters and flown to Culver City, where the complete XM-26 subsystems were assembled, checked out, and packed for pickup at El Segundo, California. Maintenance was begun on the two helicopters at Fort Lewis as they were readied for airlift. TOW missiles were taken from production lots at Hughes' plant in Tuscon and assembled for pickup by C-141 aircraft at Davis Montham Air Base.<sup>9</sup>

The equipment and personnel were consolidated at McChord Air Force Base, Washington and loaded on two C-141 aircraft. The team departed for the Republic of Vietnam on 22 April 1972 and arrived at Tan Son Nhut AFB, Saigon, Vietnam on 24 April 1972.

At Ton Son Nhut, reassembly of the two aircraft and the complete installation of TOW systems were expedited. The advancing enemy armored thrusts were overwhelming the ARVN defenses in South Vietnam and the need for this new precision, yet unproven in combat, anti-tank firepower was needed to assist in the onslaught. On 26 April, the TOW team moved to Long Binh and was placed under the operational control of the 1st Aviation Brigade. The seriousness of the enemy armored threat in several crucial areas of the country was such that COMUSMACV considered immediate commitment of the team once the aircraft were operationally ready.<sup>11</sup> However, in this mid-intensity environment, training was recognized as the key to survivability. The period of 26-29 April was utilized to conduct additional gunner tracking training, continue system checkouts, and install the armored seat modification. The entire team was considered combat ready on 29 April, and with UH-1H escorts, were flown to Pleiku for live fire training and operational employment with the 17th Aviation Group. From 30 April to 2 May, the 1st Combat Aerial TOW Team conducted their initial live-fire training in the Pleiku area. The team had never fired a live TOW missile prior to their deployment to Vietnam.<sup>12</sup> In order to gain a true appreciation for the operational successes of the 1st Combat Aerial TOW Team, it is important to examine the area of operations, enemy and friendly situation in Military Region II, and the focus of the 17th Aviation Group prior to the April 1972 North Vietnamese Easter Offensive.

1. Mary Cagle, History of the TOW Missile System, (Redstone Army Arsenal, Alabama, US Army Missile Command, 1977), p. 165.
2. Special Report - Vietnam, 1st Combat Aerial TOW Team, US Army Combat Developments Experimentation Command (USACDEC), Fort Ord, Calif, 14 Dec 1972, p. 1-1.
3. Ibid.
4. Ibid.
5. (1) Ibid., p. 1-2. (2) Cagle, p. 163.
6. Interview, author with Mr. Hugh McGinnis, MICOM representative with 1st Combat Aerial TOW Team, 10 Mar 94.
7. Interview, author with CW3(Ret) Lester M. Whiteis Jr, Senior Aviator with 1st Combat Aerial TOW Team, 14 Apr 94.

8. (1) Cagle, p. 165. (2) Interview, author with COL(Ret) Robert W. Huntzinger, former TOW Project Manager, 20 Apr 94.

9. Interview, COL(Ret) Huntzinger.

10. Interview, author with CW4 (Ret) Douglas R. Hixson, former Aviator with 1st Combat Aerial TOW Team, 10 April 1994.

11. Message, COMUSMACV to DCG USARV, 27 Apr 72, Subj: AT Weapons Systems.

12. Interview, CW4(Ret) Hixson.



UH-1B TOW  
ship in  
revetments at  
Pleiku. 1972

## CHAPTER FIVE

### FIRST COMBAT AERIAL TOW TEAM EMPLOYMENT IN MR-II

The arrival of the 1st Combat Aerial TOW Team in MR-II and Pleiku was timely. The introduction of the two UH-1B aerial TOW helicopters considerably enhanced the armordefeating capability of the 17th Aviation Group in the II Corps area of operations, that had been sorely missed in the battles at Tan Canh and Dak To. This chapter will look at the MACV decision to employ the aerial TOW team in the Central

Highlands. It will include a resume of the tactical situation in MR-II, with particular emphasis on combat actions during the Battle of Kontum. Finally, this chapter will analyze the missions of the 1st Combat Aerial TOW Team, from 2 May to 12 June, to determine the key findings relevant to the tactical employment of the XM-26 TOW weapons system in MR-II.

The decision to employ the 1st Combat Aerial TOW Team in MR-II was based on three reasons. First, the Army desperately wanted to test this new anti-tank system in a target rich, combat environment against Soviet tanks.<sup>1</sup> The general situation in MR-II was such the heliborne TOW's commitment to combat at this critical time would result in numerous available targets and the Army expected decisive results for the 1st Combat Aerial TOW Team before the US pullout from Vietnam. With the numerous cost and performance problems associated with the Cheyenne program in early 1972, the Army was in dire need of an anti-tank helicopter with an accurate point weapons system for NATO defense in Europe. With an impressive showing by the aerial TOW system in Vietnam, the Army could use the results to press Congress for additional funding for the Advanced Attack Helicopter Program. Second, the enemy's surface-to-air threat in MR-II was not as intense nor as accurate as in MR-I and MR-III.<sup>2</sup> The NVA had already introduced the SA-7 Grail, as well as intense anti-aircraft fires, in the initial assault at Quang Tri and An Loc. The anti-aircraft environment in MR-II was such that the slow and relatively unmaneuverable UH-1B aircraft would have a higher probability of survival because of terrain restrictions, and conservation of this extremely valuable and irreplaceable resource was essential. Third, and of most importance, the tactical situation in MR-II was critical. There were neither the troops nor the firepower assets available that there were in the other two offensive areas.<sup>3</sup> Mr. John Paul Vann convinced General Abrams, COMUSMACV, and the South Vietnamese Joint General Staff that the NVA's main effort was in the Central Highlands in a strategic attempt to divide the country in half and discredit the Vietnamization program.<sup>4</sup> Vann used the historical examples of Dien Bien Phu in 1956, the Battle of the Ia Drang in 1965, and the TET Offensive in 1968 to argue his case. Given his reputation and knowledge of the situation in Vietnam, Vann was so well-respected by the political and military leaders in South Vietnam at the time that he received the priority for the UH-1B aerial TOW helicopters . 5

During the days following the 22nd Division's debacle in Tan Canh and Dak To, NVA forces gradually moved southeast toward Kontum City. South of the city, the short stretch of QL-14, which connected it with Pleiku, was also interdicted by enemy roadblocks in the Chu Pao area. Every attempt by ARVN forces to neutralize the roadblocks only resulted in more casualties. In essence, Kontum was isolated and surrounded. The final enemy assault to take Kontum City would surely occur once sufficient supplies and combat replacements had been built up in the staging areas. 6

To combat the successes of the NVA offensive, the II Corps staff activated the following plan. COL Ly Tong Ba, the 23rd Division commander, would command all forces in Kontum Province. The 23rd Division headquarters was moved from Ban Me Thuot to Kontum City. 7 Four battalions of rangers would occupy blocking positions at

Vo Dinh and south along the Dak Poko River. The 22nd Ranger Battalion moved to Polei Kleng to reinforce the battalion of border rangers there. In addition, Vann placed B-52 strikes along Rocket Ridge and over the evacuated fire support bases. With major battles in each military tactical zone in South Vietnam, all general reinforcements had been fully committed and II Corps had to rely on its own forces for defense of Kontum. Security of southern MR-II became the sole responsibility of territorial forces.

8

To ensure the division the maximum time to prepare for the defense, COL Ba assigned the 2nd and 6th Ranger Groups the critical mission to delay along Route QL-14 between Tan Canh and Kontum. The plan established an outer defensive line seven kilometers from the center of the city with a delaying position four kilometers in front of the final defensive positions on the edge of the city. Four 155mm howitzers and forty-four 105mm howitzers were available for fire support. The northern and western approaches were defended by rangers, while the 53rd Regiment defended the east and south.<sup>9</sup>

The defense plan appeared to be sound and well conceived; however, there was still a problem of command and control. COL Ba was faced with the difficult task of molding a conglomeration of units into a cohesive defense whose effectiveness had already been affected by the debacle at Tan Canh. The only 23rd Division unit under his command was the 53rd Regiment. Other units under Ba's operational command, including the 2nd and 6th Ranger Groups, the 2nd Airborne Brigade, and sector forces under the province chief's command, maintained their own command channels with parent units.<sup>10</sup> Additionally, several of the full colonels resented taking orders from another colonel, and as a result, COL Ba had an increasingly difficult time attempting to get them to respond to his orders.<sup>11</sup>

Meanwhile, the 2nd Airborne Brigade, which had been holding Vo Dinh since before the loss of Tan Canh-Dak To, was ordered back to Saigon. This move left the 6th Ranger Group alone in the forward combat area with its battalions straddling Route QL-14 just south of Vo Dinh. On 27 April, the 6th Group was airlifted twelve kilometers southeast to Fire Support Base November, located north of Kontum. On 1 May, the ranger battalions at Vo Dinh came under attack and were ordered to withdraw by the group commander. As a result of this withdrawal, the ARVN defense line was moved back several kilometers to Ngo Trang, thirteen kilometers northwest of Kontum City. This setback exposed the weakness of the command structure in Kontum. At the urging of Mr. John Paul Vann, LTG Dzu moved the remaining organic units of the 23rd Division, the 44th and 45th Regiments, up to Kontum to replace the two ranger groups and the airborne brigade with no resultant loss in manpower. 12

On 2 May, the 1st Combat Aerial TOW Team ("Hawks Claw"), with the XM-26 armament subsystem, was employed in combat for the first time. The team destroyed four M-41 tanks, a 2 1/2 ton truck and a 105mm howitzer.<sup>13</sup> The equipment was all US equipment previously captured by the North Vietnamese when Fire Support Base Lima was abandoned on 1 May. The TOW missiles were fired from a range of 2700 meters

and resulted in direct hits on the tanks and howitzer. Additionally, the TOW missiles created secondary explosions a few seconds after impact as a result of ammunition rounds inside the tanks and howitzer. Clearly, the 1st Combat Aerial TOW team made a very impressive showing during the initial day of employment in MR-II. 14

During the first week of May, attacks-by-fire on the ranger camps increased. Ben Het and Polei Kieng bore the brunt of these sporadic attacks because their locations hindered the enemy's movement of supplies into assembly areas for the attack on Kontum City. The enemy's massing forces to seize Polei Kleng provided lucrative targets for the sixteen B-52 strikes employed in the area during the three days of extended attack.<sup>15</sup> A captured defector later reported that his company of 100 men had sustained 40 killed and as many wounded. 16

On 9 May, ARVN forces were wedged out of Polei Kieng by an assault of tanks and infantry. LTG Dzu then directed that anything within the evacuated perimeter at Polei Kleng to be taken under fire. Additionally, the NVA sent dogs into the perimeter wire at Ben Het Ranger Camp to detonate mechanical mines. The tactic was followed by a first-light heavy ground attack supported by six PT-76 tanks. Two of the tanks, along with infantry, assaulted the main gate but were knocked out by rangers using M-72 Light Antitank Weapons (LAWs). Five PT-76 tanks attacked the eastern perimeter; two were knocked out by LAWs. The three remaining PT-76 tanks were destroyed by the 1st Combat Aerial TOW Team from ranges of 2000-3000 meters with first-round hits resulting in secondary explosions. 17 The remainder of the PT-76 tanks retired after the NVA infantry had seized the eastern perimeter and the rangers spent the rest of the day ejecting the enemy from the perimeter. By 1700 hours the perimeter was restored. The attacking NVA forces lost 11 tanks and over 100 dead in an attempt to overrun Ben Het. Although the forces there continued to be harassed with probing attacks, no additional major enemy assaults were made.<sup>18</sup>



**Kills marked on the side of the TOW ship**

The H/17 and H/10 air cavalry troops from 17th Aviation Group had not been idle during the period since Tan Canh. Daily missions over the battle area detected new trails, caches and bunker complexes. SRAG began using a command and control helicopter in which senior officers flew as observers and went where they could best influence the action. On 10 May, BG John Hill, military deputy to Mr. Vann in SRAG, sighted an area that he was convinced was a main assembly area for attacking forces.<sup>19</sup> A prisoner captured that same day also confirmed that the 320th NVA Division had closed on its assembly area. <sup>20</sup> Subsequently, B-52 strikes were ordered on the suspected positions. On 12 May the 44th Regiment completed its replacement of the 2nd Ranger Group astride Route QL-14, the probable main enemy avenue of approach. The 44th Regiment's positions were approximately four kilometers northwest of Kontum. At 0700 hours on 13 May, radio intercepts confirmed that the 320th NVA Division was in its final stage of preparation in its assembly area, confirming earlier air cavalry reports of a large buildup of armor and troops just south of Vo Dinh. <sup>21</sup>

Fearful that US B-52 strikes would disrupt their momentum if they remained too long in their attack positions, the enemy planned to attack as early as possible. Vann was

skeptical about an imminent attack since no concentrated artillery preparations were falling on the 23rd Division's defensive positions. Although there were scattered attacks-by-fire, the pattern of heavy bombardment before the attacks on Tan Canh and the fire support bases was absent. At 2230 hours a battalion of the 44th Regiment at Fire Support Base November reported many lights moving south on Route QL-14 toward their positions. This report did not cause alarm until it was realized that NVA experience with night movement of armor vehicles had caused them to use their lights when moving into attack positions at Tan Canh.<sup>22</sup> Additionally, the 23rd Division received a captured document sent from the 320th Division artillery commander to one of his units. The message stated that all division artillery units would support an attack by the 320th at 0400 hours on 14 May. Vann still considered this contention to be hasty, but he believed it was better to be prepared. He told CCL Truby, the US advisor to the 23rd ARVN Division, that he would get air assets to them at first light. At 0430 hours on 14 May, Fire Support Base November began to receive an increasing volume of indirect fire which continued until 0530 hours when the major assault on Kontum began. 23

The NVA had been surprised at the ease with which they had taken Tan Canh. As a result they decided to attack Kontum City without a time-consuming artillery preparation. The attack had three major axes of advance (See Figure 5) originated along Highway QL-14 from the north and northwest. The 48th NVA Regiment and one company of the 203rd Tank Regiment attacked from the northwest along the west side of Route 14. The 64th NVA Regiment attacked south along the east side of the highway along with one company of armor from the 203rd Tank Regiment. The 28th NVA Regiment of the enemy B-3 Front advanced north against the 53rd ARVN Regiment. The 141st Regiment of the 2nd NVA Division probed the sector forces who defended the southern positions along the river.<sup>24</sup>

The air support was not yet on station when the 23rd ARVN Division tactical operations center received the call that two columns of infantry with tank support were moving down Route QL-14. A quick call from CCL Truby to the II Corps operations center launched the US Cobra helicopters from the 361st Aerial Weapons Company and the UH-1B TOW helicopters from the 1st Combat Aerial TOW Team.<sup>25</sup> The ARVN artillery commander quickly massed his artillery fires on the enemy high speed avenue of approach, Route QL-14, and the 44th ARVN Regiment dispatched tank killer teams armed with the LAWs. The massed artillery made the T-54s easy prey for the tank killer teams by separating the infantry from the tanks. LTC Thomas

McKenna, Senior Advisor to the 44th Regiment, reported that ARVN soldiers, while admitting that they were initially scared by the sight of T-54 tanks, crawled out of their bunkers and engaged the tanks with their LAWs at ranges less than 50 meters. Two quick kills of the tanks were made by the tank killer teams.<sup>26</sup> At 0600 hours the initial UH-1B TOW helicopter arrived over Kontum after responding to the tactical emergency declared by the SRAG advisers. Before two of the T-54 tanks could cross the river and reach the cover of the thick undergrowth along Route QL-14, the TOW missiles fired at a range of 2500 meters from the UH-1B helicopter stopped the tanks "dead in their tracks". Flames reached thirty feet high from the burning tanks as a result again of

the secondary explosions from ammunition within the tanks.<sup>27</sup> The heavy artillery concentration along with the sudden destruction of the leading armor broke up the initial attack by 0900 hours.<sup>28</sup>

All of Kontum City received incoming artillery and rocket fire; however, US and VNAF air support was successful in spotting the origin and silencing the guns and launchers.<sup>29</sup> Some areas such as the Kontum airfield and the 23rd ARVN Division command post received light attacks-by-fire, indicating that enemy forward observers were adjusting their rounds for future fires. By nightfall on the 14th the front lines had been restored by the 23rd ARVN Division by fierce, hand-to-hand fighting. 30

At 2000 hours the NVA again launched attacks against the 44th and 53rd Regiments . The renewed attacks were more intense than previous ones. In the confusion of fighting at night the two ARVN Regiments failed to interlock their fires, this situation spelled disaster when a battalion of the NVA penetrated the gap between the ARVN Regiments. Even the use of concentrated artillery and Spectre fires failed to stop the assaults and it appeared that the defense of Kontum was in serious jeopardy.

As the tactical situation became more precarious the 23rd ARVN Division commander and US advisors developed some last-ditch defensive measures to stop the enemy penetrations. US advisors wanted to place on the attacking enemy the two pre-planned B-52 strikes scheduled for 0300 hours. Since it would be impossible to request the B-52 strikes any nearer to friendly positions, the ARVN forces would be withdrawn one hour before the strikes. An increase in artillery fires was planned to compensate for the withdrawn force and both ARVN regiments were instructed to hold in place and move back on order. This was a bold and risky move, but the 23rd ARVN Division commander and US advisors had no other alternative to save Kontum from falling before dawn. When the critical time arrived, the 23rd ARVN Division commander ordered the withdrawal and directed the artillery to fire continuously for the next hour. The two B-52 strikes came on time and the nearness of the two strikes rocked the small city. As the rumbling stopped, so did the ferocity of the attacks. At first light, ARVN search elements and US advisors discovered over 400 bodies scattered all around Kontum. The initial battle convinced the line troops that T-54 tanks were not invincible and that B-52 strikes could shatter the NVA human wave assaults.<sup>32</sup>

Vann and his staff at II Corps headquarters believed that the North Vietnamese were trying to save time by attacking with tanks before their usual artillery preparations. The enemy apparently hoped that the ARVN defenders would be frightened into retreat like Tan Canh three weeks before. Although fewer than 3,000 NVA troops had taken part in these initial attacks, SRAG knew a full NVA division of 10,000 men was within striking distance. Vann anticipated another major thrust within the next two or three days.<sup>33</sup>

On 15 May the 23rd ARVN Commander ordered limited offensive maneuvers in the areas of the previous night's B-52 strikes in an attempt to fix the enemy's new positions and develop new air and artillery targets. During these operations, elements of

the 44th and 53rd Regiments received intermittent fire from heavy mortars and automatic weapons. 34 The 1st Combat Aerial TOW Team continued to seek out the enemy, destroying an ammunition truck and a large bunker in an area northeast of the city. The air cavalry reported a large increase in activity to the northeast, southeast, and west of Kontum and similar activity was detected further west of Kontum City near the Dak Poko River. 35

The relative quiet of the 15th was interrupted at 0200 hours on the 16th by an increase in enemy shelling. Some of this fire was 100mm fire from the main guns of six T-54 tanks.<sup>36</sup> A UH-1B TOW helicopter, along with Cobra gunships from the 361st Aerial Weapons Company, was tasked to engage and destroy the T-54 tanks. Initially, the aircrew had extreme difficulty acquiring the tank silhouette; however, once adequate flare illumination was obtained, the aircrew fired one TOW missile at the tank target but the missile infrared source blinded the gunner and he was unable to track the missile. The impact of the missile was not observed and the mission was terminated because of a flare shortage. Clearly, the first attempt to employ the UH-1B TOW helicopter at night was a failure.<sup>37</sup> The remainder of the evening passed without further significant enemy activity, until about 0615 hours when the tanks once again began to fire upon the positions of the 44th Regiment. There were no ground probes at this time.<sup>38</sup>

COL Ba examined the results of these first few probes. He had seen his defensive line penetrated and disaster narrowly avoided. His fear of this happening again led him to decide to tighten his defensive perimeter, and he discussed this with MG Nguyen Van Toan, the new II Corps commander, and Mr. Vann during their visit to Kontum City on the 16th. They had agreed to his plan to move the 44th Regiment back into a reserve position in the hospital compound and move the 45th Regiment into its place.<sup>39</sup>

During the 16th, the 1st Combat TOW Team achieved significant results with the airborne TOW missile. They destroyed a truck and a 130mm howitzer from a range of 2500 meters. The first missile fired at the breech of the howitzer narrowly missed; however, the second missile hit the howitzer resulting in another secondary explosion. The TOW team also destroyed an abandoned ARVN ammunition dump at a fire base north of Kontum. Finally, the TOW team destroyed two NVA armored personnel carriers west of Kontum on the same firing run. The second missile was fired five seconds after impact of the first missile and demonstrated surprisingly to the aircrew that multiple targets could be engaged on the same firing run. 40

The Kontum airfield came under increased observed indirect fire during the afternoon of the 16th.<sup>41</sup> Each time a helicopter landed to refuel, it was targeted with nine to twelve rounds of mortar and artillery fire. Three helicopters from 17th Aviation Group were damaged in this manner during the afternoon hours.<sup>42</sup> Two VNAF C-123s which were on the parking ramp were systemically targeted and destroyed. In addition to damaging aircraft, over 50 rounds of artillery landed on the airfield runway after 1700 hours and the airfield remained closed until 0645 hours on the morning of the 17th.<sup>43</sup> A US C-130 was unloading its cargo of ammunition on the western end of the airfield on 17 May when rocket fire again fell on the airfield. The USAF pilot attempted to take off

with his aircraft only partially unloaded and crashed shortly after takeoff. As a result of this incident and the increasing volume of observed artillery and mortar fire, Vann decided to limit fixed wing traffic to nights flights only.<sup>44</sup>

Meanwhile, the enemy studied the Kontum defense to find its weaknesses while NVA sapper elements infiltrated into the city by slipping through the southern defense sector manned by the territorial forces. At the same time, other enemy reconnaissance elements and artillery forward observers managed to penetrate the city under the disguise of civilian refugees and ARVN troops. 45

Indirect artillery fire continued to land on Kontum airfield on the 18th. Intelligence information gathered during the lull in the fighting indicated that a major registration of artillery fire would be made on the 18th when the North Vietnamese Army celebrated Ho Chi Minh's birthday. 46 From 1740 to 1940 hours over 200 rounds of mixed artillery and mortar fire peppered the Kontum City defenders. Forward elements of the 44th Regiment located seven T-54 tanks to their front.<sup>47</sup> A forward air controller (FAC) previously spotted the tanks about two miles out from the defenders indicating the NVA's reluctance to expose their armor to accurate anti-tank fire. The FAC also noticed an island on the river just north of Kontum City perimeter that McKenna, Senior Advisor to the 44th Regiment, reported that ARVN soldiers, while admitting that they were initially scared by the sight of T-54 tanks, crawled out of their bunkers and engaged the tanks with their LAWs at ranges less than 50 meters. Two quick kills of the tanks were made by the tank killer teams.<sup>26</sup> At 0600 hours the initial UH-1B TOW helicopter arrived over Kontum after responding to the tactical emergency declared by the SRAG advisers. Before two of the T-54 tanks could cross the river and reach the cover of the thick undergrowth along Route QL-14, the TOW missiles fired at a range of 2500 meters from the UH-1B helicopter stopped the tanks "dead in their tracks". Flames reached thirty feet high from the burning tanks as a result again of the secondary explosions from ammunition within the tanks.<sup>27</sup> The heavy artillery concentration along with the sudden destruction of the leading armor broke up the initial attack by 0900 hours.<sup>28</sup>

All of Kontum City received incoming artillery and rocket fire; however, US and VNAF air support was successful in spotting the origin and silencing the guns and launchers.<sup>29</sup> Some areas such as the Kontum airfield and the 23rd ARVN Division command post received light attacks-by-fire, indicating that enemy forward observers were adjusting their rounds for future fires. By nightfall on the 14th the front lines had been restored by the 23rd ARVN Division by fierce, hand-to-hand fighting. 30

At 2000 hours the NVA again launched attacks against the 44th and 53rd Regiments. The renewed attacks were more intense than previous ones. In the confusion of fighting at night the two ARVN Regiments failed to interlock their fires, this situation spelled disaster when a battalion of the NVA penetrated the gap between the ARVN Regiments. Even the use of concentrated artillery and Spectre fires failed to stop the assaults and it appeared that the defense of Kontum was in serious jeopardy.

As the tactical situation became more precarious the 23rd ARVN Division commander and US advisors developed some last-ditch defensive measures to stop the enemy penetrations. US advisors wanted to place on the attacking enemy the two pre-planned B-52 strikes scheduled for 0300 hours. Since it would be impossible to request the B-52 strikes any nearer to friendly positions, the ARVN forces would be withdrawn one hour before the strikes. An increase in artillery fires was planned to compensate for the withdrawn force and both ARVN regiments were instructed to hold in place and move back on order. This was a bold and risky move, but the 23rd ARVN Division commander and US advisors had no other alternative to save Kontum from falling before dawn. When the critical time arrived, the 23rd ARVN Division commander ordered the withdrawal and directed the artillery to fire continuously for the next hour. The two B-52 strikes came on time and the nearness of the two strikes rocked the small city. As the rumbling stopped, so did the ferocity of the attacks. At first light, ARVN search elements and US advisors discovered over 400 bodies scattered all around Kontum. The initial battle convinced the line troops that T-54 tanks were not invincible and that B-52 strikes could shatter the NVA human wave assaults.<sup>32</sup>

Vann and his staff at II Corps headquarters believed that the North Vietnamese were trying to save time by attacking with tanks before their usual artillery preparations. The enemy apparently hoped that the ARVN defenders would be frightened into retreat like Tan Canh three weeks before. Although fewer than 3,000 NVA troops had taken part in these initial attacks, SRAG knew a full NVA division of 10,000 men was within striking distance. Vann anticipated another major thrust within the next two or three days.<sup>33</sup>

On 15 May the 23rd ARVN Commander ordered limited offensive maneuvers in the areas of the previous night's B-52 strikes in an attempt to fix the enemy's new positions and develop new air and artillery targets. During these operations, elements of the 44th and 53rd Regiments received intermittent fire from heavy mortars and automatic weapons.<sup>34</sup> The 1st Combat Aerial TOW Team continued to seek out the enemy, destroying an ammunition truck and a large bunker in an area northeast of the city. The air cavalry reported a large increase in activity to the northeast, southeast, and west of Kontum and similar activity was detected further west of Kontum City near the Dak Poko River.<sup>35</sup>

The relative quiet of the 15th was interrupted at 0200 hours on the 16th by an increase in enemy shelling. Some of this fire was 100mm fire from the main guns of six T-54 tanks.<sup>36</sup> A UH-1B TOW helicopter, along with Cobra gunships from the 361st Aerial Weapons Company, was tasked to engage and destroy the T-54 tanks. Initially, the aircrew had extreme difficulty acquiring the tank silhouette; however, once adequate flare illumination was obtained, the aircrew fired one TOW missile at the tank target but the missile infrared source blinded the gunner and he was unable to track the missile. The impact of the missile was not observed and the mission was terminated because of a flare shortage. Clearly, the first attempt to employ the UH-1B TOW helicopter at night was a failure.<sup>37</sup> The remainder of the evening passed without further significant enemy

activity, until about 0615 hours when the tanks once again began to fire upon the positions of the 44th Regiment. There were no ground probes at this time.<sup>38</sup>

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indicating the NVA's reluctance to expose their armor to accurate anti-tank fire. The FAC also noticed an island on the river just north of Kontum City perimeter that was not there the day before. The island turned out to be a camouflaged T-54 tank that had stalled crossing the river and the 1st Combat Aerial TOW Team succeeded in destroying the tank from a range of 2500 meters. The same controller also spotted two 23mm anti-aircraft guns firing from the vicinity of Polei Kleng on Kontum City. The TOW team fired the first missile at the 23mm guns, but they were out of range and the missile fell short of the target. The second missile was fired from an estimated range of 2800 meters and destroyed one of the 23mm guns. Even though the NVA air defense crew realized they were detected, the second gun continued to fire on Kontum until they were destroyed by USAF tactical aircraft. 48

At 2345 hours on 18 May an increased barrage of artillery fire marked the beginning of a ground assault by the 48th NVA Regiment against the forward defenses of the ARVN 44th Regiment. Antipersonnel claymore mines sowed on the perimeter created gaping holes in the wall of NVA attackers. ARVN artillery, the tenacity of the ARVN frontline soldiers, and the devastation wrought on by the claymores thwarted the first attack. Finally, a B-52 strike at 0015 hours on 19 May ended the first assault.<sup>49</sup>

The only significant activity on the 19th occurred at 2115 hours when the NVA troops fired canisters of CS gas onto the frontline ARVN bunkers, followed by an assault on the defenders. The attack was quickly dispersed by ARVN artillery and ground fire. At 0345 hours on 20 May, the 53rd ARVN Regiment received the first of three successive attacks on their positions. During the final assault the 53rd was pushed off their positions and this lack of resistance may have been caused by weariness from the past three weeks of intense fighting.

Throughout the day of the 20th, ARVN forces unsuccessfully tried to regain the lost position. By 1645 hours the enemy had tunneled to within twenty meters of the positions of the 53rd Regiment, too close for the use of tactical air support. The 23rd Division commander was plagued by numerous false reports of success from subordinate commanders. COL Ba had been very reluctant that day to commit his armor or attempt to verify the false reports coming in. Finally, Vann persuaded him to commit his division reserve.

Success was achieved by linking up nine M-41 tanks firing direct fire with the support of the gunships from the 361st Aerial Weapons company and the UH-1B TOW helicopters. This decisive action resulted in the withdrawal of the enemy forces. Meanwhile, the air cavalry reported intensive activity in the area north and east of Kontum City. The NVA movement in the area was down the valley along Route 5B pushing closer to the defenses in the area. 52

„,Convoys were needed to carry supplies from Pleiku to the forces defending Kontum City. The II Corps relief task force consisted of the 2nd and 6th Ranger Groups, augmented by armored cavalry and combat engineers. Despite the vigorous support of tactical air and artillery firepower, the attack was slowed by multiple blocking positions

on both sides of the highway. The relief effort was finally stopped by a system of NVA strong points entrenched on the rocky southern slope of the Chu Pao Mountain.<sup>55</sup>

After ten days of preparing his forces, the NVA resumed the attack on Kontum on 25 May. The attack had all the intensity of a decisive, make or break effort. It became imperative for the enemy to achieve a quick victory or withdraw his troops altogether for refitting. The drenching monsoon had started to settle in over the Central Highlands and its first effects had begun to be felt in the Kontum/Pleiku area. Even if the NVA had the resources for replacements, a drawn-out campaign at this time could only spell disaster. 56

The attack began with indirect artillery fire on units of the 23rd Division near the airfield and south of the city. At 0300 hours the enemy 406th and 10th Sapper Battalions began to infiltrate the southeastern positions held by territorial forces. Reconnaissance had revealed what the US advisors had....

In addition to the principal attacks against the 53rd, pressure also increased on the sector forces around Kontum City. At first light the 1st Combat Aerial TOW Team began firing TOW missiles and by mid-afternoon had destroyed ten T-54 tanks, an enemy bunker, an ammunition truck and a machine gun position on top of a water tower.<sup>60</sup> The average engagement ranges for the tank targets were 2200 meters. With the support of Cobra gunships a task force of one battalion from the 44th Regiment, reinforced by eight tanks, counterattacked and successfully contained an enemy penetration between the 45th and 53rd Regiments. The 23rd ARVN forces were unable to push the enemy out of his newly captured positions. The situation remained fairly stable for the remainder of the day within the city; however, after dark, indirect fire on the command posts of the 45th and 53rd Regiments increased. The 45th was faced with the heaviest attacks by three battalions of the 64th NVA Regiment and the attackers penetrated between the 45th and 53rd regiments and enveloped the forces of the 45th Regiment. All tactical air support was diverted to the embattled regiment. Again, two B52 strikes, diverted from scheduled missions decreased the ferocity of the attack.<sup>61</sup>

In the early morning of 27 May, the enemy made a surprise main thrust with infantry and armor against the 44th Regiment held in division reserve in the city's hospital complex. When the 44th Regiment completed the move into its reserve position on the 22nd, they failed to place any security to their front. They mistakenly believed that the 45th and 53rd were to their front. This error nearly proved disastrous. The main NVA armor and infantry thrust struck this area with attacks by the 1st Regiment, 2nd NVA Division, and the 66th Regiment, B-3 Front, supported by one company of T-54 tanks. A coordinated attack was made by the 52nd NVA Regiment of the 320th NVA Division, with the assistance of the 64th Regiment which had enveloped the 45th Regiment the previous night.<sup>62</sup>

The TOW helicopters had been scrambled from Pleiku at first report of T-54 tanks and infantry in the wire near the ARVN 44th Regiment. At 0600 hours they were over the northern battle front at Kontum. The open terrain north of the city provided no

cover or concealment for the attacking tanks, making them easy prey for the UH-1B helicopters which scored two TOW missile hits on T-54s that were moving to join the attack on the northeastern defenses. Tactical aircraft, the TOW helicopters and the efforts of the front line soldiers stemmed the enemy advance by 1000 hours. The NVA infantry still held the northernmost compound and continued to harass the airfield.<sup>64</sup>

By midday the enemy fanned out and formed pockets of resistance all across the northern front. The pockets of resistance were in areas where friendly use of fire was limited. Despite all the efforts of ARVN troops and the firepower of US tactical aircraft and gunships, it was difficult to dislodge the enemy from his positions....

By the early morning of the 28th, the NVA infantry was firmly entrenched in the hospital compound only 40 meters away from ARVN defensive positions. Tactical air support was impossible because of bad weather. Elements of the 44th and 53rd Regiments, supported by tanks from the 8th Armored Cavalry Regiment, attempted to dislodge the enemy from the northern compounds. At the same time territorial forces engaged in bitter house-to-house fighting in the southern portion of the city where the NVA were still dug in inside a school and some houses at the edge of the airfield. An NVA machine gun crew on a water tower overlooking the area halted the ARVN counterattack in the hospital compound by stopping the ARVN infantry. This was the same water tower that the 1st Combat Aerial TOW Team had fired a TOW missile on the 26th to take out the enemy machine gun and crew. The TOW Team was ordered on this day to destroy the machine gun position and the water tower. The TOW helicopter silenced the machine gun and attempted to topple the tower by firing three TOW missiles at the eighteen-inch diameter tower legs. The TOW missiles hit two of the legs from a distance of 2800 meters; however, the water tower was empty and did not fall because of multiple supporting cross members.<sup>66</sup> The 53rd Regiment advanced to within 500 yards of the airstrip in hand-to-hand fighting throughout the day. Kontum was reinforced during the afternoon by the 3rd battalion, 47th Regiment from Pleiku. The 45th Regiment, pulling back into a tighter ring around the city, encountered heavy resistance by an entrenched NVA battalion and was unable to enter the city's defensive ring until the 29th of May. By the night of the 28th the situation remained critical; the NVA still held the same area he had at the beginning of the day. The 23rd Division's only accomplishment was in containing the two penetrations in the northern compounds and southern area. <sup>67</sup>

By this time in the battle both sides found it difficult to resupply their troops. The hourly B-52 strikes forced the North Vietnamese to store their supplies great distances from the city. Captured soldiers revealed that originally each NVA soldier had been provided three belts filled with cooked rice. Transportation elements were to carry food and ammunition to the front lines. However, heavy airstrikes disrupted the telephone lines and the transportation elements trying to reach the front. In short, the NVA had to achieve success swiftly or withdraw to the sanctuary of the mountains....

... As the 44th Regiment moved forward, the troops saw large groups of the enemy withdrawing to the northeast. This was the only avenue of escape left as the

counterattack forces were on the other three sides. The air cavalry and forward air controllers also reported the enemy leaving the battlefield. By day's end some NVA soldiers still remained in Kontum, but their positions rapidly weakened under ARVN pressure. 71

By midday on the 31st, Mr. Vann believed that the main battle was over, although pockets of resistance would remain for a time. The NVA needed resupply and personnel replacements for their battered forces and retreated back to their sanctuaries. 72 **Nearly 4,000 NVA dead littered the battlefield.** The ARVN forces had suffered heavily, but they held the field with the assistance of US advisers, tactical airstrikes, Cobra gunships, and UH-1B TOW helicopters. Effective enemy resistance in Kontum City ceased by 10 June 1972.....

The most dramatic impact of the heliborne TOW system was demonstrated in the Battle of Kontum 26-27 May. As the 1st Combat Aerial TOW Team was committed to the battle at first light on 26 May, approximately 4000 NVA troops, accompanied by twelve T-54 tanks, had penetrated the defenses of Kontum City. By relieving each other on station throughout the morning, the two TOW helicopters maintained constant pressure on the attacking NVA armor and destroyed ten T-54 tanks. The following morning, the TOW team returned and destroyed the only two T-54 tanks known to be still in the area. It is significant to note that in the Battle of Kontum on 26 and 27 May, USAF tactical air was not able to respond to the armor threat because of low daytime cloud ceilings of 5,000 feet in the area.<sup>74</sup> Additionally, the USAF tactical bombers could not have accomplished the anti-tank mission without severe collateral damage to friendly troops, civilian refugees in the area, and the city itself.<sup>75</sup> With the enemy troops and T-54 tanks intermingled with ARVN forces in the city, the aerial TOW teams were able to destroy tank after tank in the built up areas with pinpoint accuracy from ranges that exceeded 2000 meters. Finally, it is important to recognize that the NVA was unable or unwilling to mass an armor threat in the Kontum area after 27 May.

The enemy reaction to the TOW missile attacks was strangely passive. In almost every mission, the enemy tanks engaged were stationary at the time of missile impact and did not take evasive action. An example of the enemy reaction occurred on 14 May as two T-54s were crossing a river five kilometers northwest of Kontum. One enemy tank was in the middle of the river and the other tank was behind it preparing to cross. As the aerial TOW team rolled in and destroyed the tank in the middle of the river, the command and control aircraft reported that the crew of the second tank abandoned their vehicle. The second tank was subsequently destroyed by the aerial TOW. It would appear that the introduction of this new weapon system into the battle situation totally surprised the enemy. 76

During the time of employment in MR-II, the 1st Combat Aerial TOW Team never received a single hit by enemy air defenses. The lack of enemy air defense influence on engagements by the airborne TOW can be attributed to the long standoff range and altitude maintained by the aerial TOW teams, and the disciplined training and experience gained by the crews while participating in the USACDEC 43.6 trials.<sup>77</sup> Also,

the TOW Team developed very close operational procedures and teamwork with the dedicated UH-1 command and control aircraft from the H/17th Air Cavalry Squadron and the AH-1G gunship escorts from the 361st Aerial Weapons Company employed on every mission. <sup>78</sup> When the TOW Team was employed in MR-II, the enemy air defense capabilities included .51 caliber machine guns and 23mm and 57mm anti-aircraft weapons. The NVA did not possess a heat seeking missile air defense capability during this period in MR-II. The enemy air defense fires were active and were primarily directed at air cavalry and Cobra helicopters, USAF tactical aircraft, and forward area controllers that flew in close proximity to the targets. The TOW teams operated at an average altitude of 2500 feet as compared to the nap of the earth (NOE) technique used in Experiment 43.6. This was deemed appropriate in the absence of an enemy surface to air missile (SAM) air defense capability combined with the small arms ground fire threat at lower altitudes. The presence of an enemy SAM capability would have forced the TOW teams to risk the ground fire at NOE as opposed to a SAM at altitude.<sup>79</sup>



The airborne TOW concept proved to be highly adaptable to combat operations.<sup>80</sup> Though installed in an overage UH-1B aircraft, the TOW stabilized optical tracking system proved to be simple in operation and capable of achieving a very high percentage of first round hits. The airborne TOW demonstrated its capability to track easily and to destroy targets with surgical precision and with no collateral damage. As aircrews gained more expertise with the system, they were able to make multiple launches on the same target run if the first missile malfunctioned.<sup>81</sup> When engaging

multiple targets, the crews discovered it was also possible to engage the second target a few seconds after impact of the first missile. It was also successfully employed during periods of marginal weather. The results in terms of combat kills for the 1st Combat Aerial TOW Team are shown in Table 1.

**TABLE 1 - TOW FIRINGS**  
**1ST COMBAT AERIAL TOW TEAM - 2 MAY TO 12 JUNE 1972**

**COMBINED KILLS**

**24** Tanks (**10** T-54, 6 PT-76, 8 M-41)  
**4** A.P.C. (Believed to be AA I CVM-1967)

**2** Artillery Pieces (1 105mm, 1 unknown type)  
**7** Trucks (6 2-1/2 ton, 1 3/4 ton)  
**1** Anti-aircraft position (Twin 23mm)  
**2** Machine Gun Positions (1 12.7mm, 1 30 cal)  
**1** Wooden bridge  
**1** Hut with small arms ammunition  
**1** Small arms ammo dump at abandoned fire base  
**1** 122mm rocket launching position  
**3** Bunkers

**47 TOTAL KILLS**

**SYSTEM PERFORMANCE**

<b>Practice Firings</b>	<b>21</b>
<b>Combat Firings</b>	<b>85</b>
<b>TOTAL FIRINGS</b>	<b>106</b>

7 Combat Missile Failures  
3 Missile Failures (2 no IR source,  
1 no fit motor)  
1 System Failure (power supply cut off at firing)  
3 Failures to capture missile (could have been system, missile or  
crew - unknown)  
3 Practice Missile Failures

## 96 TOTAL GUIDED FLIGHTS

11 Missed Target

3 Known Misses (Gunner Tracking Error)

8 Out of Range (2 of these at night)

85 TOTAL TARGET HITS

Source. Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, 14 Dec 72, Table 3-1.

While daylight combat operations were a dramatic success, the aerial TOW system had limited usefulness at night.<sup>82</sup> Early night firings failed because the gunners were blinded first by the bright infrared (IR) source and then by flares. When a red filter was retrofitted to the sight, it lowered the light transmission ability of the sight and altered the clarity of the reticle which made the operation more difficult. The filter did enable night firings without blinding the gunner; however, it was nearly impossible for even the most experienced gunners to locate the range of the targets at night.<sup>83</sup> Several misses also occurred due to the gunner's inability to see the target while guiding the missile. Flares entered the field of view of the 13-power sight which resulted in both missile guidance problems and danger to the gunner's eyesight. The flares also caused an extraneous IR source which resulted in missile guidance problems. The experiences of the 1st Combat Aerial TOW Team at night clearly demonstrated the need for a passive night vision system for target detection and tracking before the XM26 TOW could have an effective night capability.

### TOW Team moved to I Corps

Before the Spring Offensive, the pace of the war had changed in I Corps. Ron Magnus recalls returning to Vietnam as a captain:

*I arrived in Viet Nam about 10 Dec 71 to start my second tour as a helicopter pilot. I was assigned to fly Cobras with the 48<sup>th</sup> Assault Helicopter Company in Da Nang. Things seemed slow until the Easter Invasion started, then I would look around my hooch every morning and wonder if I would see it that evening. Sure enough, one evening I was looking at the inside of the Da Nang Med-evac Hospital instead of my hooch, which I never saw again.*

*That morning, 21 May 72, (I think) two 48th fire teams had been assigned to support Chinooks putting in artillery pieces near Ba To in Northern II Corp. We flew to Duc Pho on the coast and supported the operation from there. The first team went out and flew around until they were low on fuel, then we headed out. On the way to the artillery site they called us on the radio*

*and said Ba To was being overrun and could we go to Ba To itself and attack the NVA there.*

*No Problem, except we did not have radio contact with anyone in Ba To who spoke English, only advisors with the artillery unit on the hill a few miles away. Over Ba To we could hear small arms fire, but could not tell who was who and what was what for sure. There was a compound, that we assumed to be full of friendly Yards (Ba To was a Montagyard village). So we'll just shoot some nails at all the hiding spots around the compound (triangle shaped dirt bermed fortification) within small arms range. Well it takes awhile to pick out all the likely hiding spots and fire off one pair of nails at each which I tried to do on one pass. I got too low and someone with a .30 cal. machine gun just off to my left hit us nine times just as I was pulling out at the bottom of the run. One round went through my left hand.*

*I told the copilot/gunner I was hit and that he should take the aircraft. I locked my shoulder harness and we flew back to Duc Pho. A Huey flew me to the medevac hospital at Da Nang. There are lots of details that I would like to fill in here, but time is short. Anyway, after 4 operations I have pretty good use of my left hand.*



**SS-11**

The UH-1M team with the SS-11 wire-guided missiles left III Corps on 14 May, to proceed to I Corps, where it was hoped that they would be allowed to engage enemy armor. Jim McKnight recalls that the unit's first tank engagement resulted in the destruction of two PT-76 amphibious tanks for the expenditure of seven missiles. On other occasions, the SS-11 was more effective, but overall, could not compete with the newly developed TOW.

Feedback provided about the SS-11 ranged from stating that it was all but useless to somewhat less flattering. The following may have been a fluke:

*TOW team and SS-11 birds were brought in country after start of Easter Offensive and used in MR II. After May they were moved north to MR I. Both were attached to D/17 CAV at one time. I remember CW2 Bobby "Serge" Cormack flew SS-11 (true old-timer with large handlebar- last seem in high rise club at FT Hood in 1977, went to FRG, and I have not had a X-Mas card since I went to ROK in 80). The TOW platoon was removed from D/17 CAV after a rather infamous attack in the Que Son Valley south of Da Nang in late July or mid-August, and was sent down to MR III. The SS-11s remained at Da Nang with 11th CAG until the end (Dec 72/Jan 73). Attack incident involved NVA in a cave who did not want to come out and let us shoot them. TOW leader announced on radio for everyone to clear out of his way - that he had the answer to our sorry shooting. (We all know what God does to your aiming point when you start bragging about how good*

*you are!) He rolled in and 5 very expensive and rare TOW missiles later still was in the county, but a long way from hitting the cave. Meanwhile Serge Cormack rolled in with an SS-11 and 'eye-balled' it directly into the cave for a perfect shot. After action provoked some "smoke and fire" from 11th CAG. TOW platoon immediately removed from D/17 CAV since we were wasting its ammo. But I remember that A/C sure looked sheepish in the club afterwards explaining how accurate TOWs were. Maybe some of the other D Troopers will remember more about this. (John Bridgers)*

John Burns' study continues, comparing operations with tank-killing missiles in I Corps:

## **CHAPTER SIX**

### **2ND COMBAT AERIAL TOW TEAM REMAINS IN VIETNAM**

After enemy resistance was eliminated within Kontum City, combat activity in Kontum Province centered on ARVN clearing operations north and northwest of the city in an effort to reclaim the lost territory. Additionally, the activities of government forces focused on opening Highway QL-14 between Kontum and Pleiku. With the immediate NVA armor threat defeated in MR-II, General Abrams made the decision to keep the XM-26 aerial TOW system in Vietnam as insurance against any future NVA armor penetration.' As a result, the 2nd Combat Aerial TOW team was formed and assumed the mission in MR-II. From 8 to 14 June, the replacement members, selected from 17th Aviation Group's Cobra gunship units, were trained by the 1st Combat Aerial TOW Team in the Pleiku area. Knowing that they had helped to turn the tide at the Battle of Kontum, the 1st Combat Aerial TOW Team redeployed to the US during the period of 18 to 22 June. <sup>2</sup>

At the time the 2nd Combat Aerial TOW Team assumed the mission, the combat action in MR-II had subsided and the monsoon season started. As a result, target availability and opportunities for combat missions were greatly reduced.<sup>3</sup> The major mission for the TOW team during June was support for the Highway QL-14 road opening operation. They provided aerial coverage for the fourteen maneuver battalions required to accomplish the task. The TOW team's only combat mission during this operation was the destruction of two 2 1/2 ton ammunition trucks on 20 June from a range of 2000 meters.<sup>4</sup> The enemy fought fiercely in the initial phases; however, by 26 June, the advancing ARVN forces secured the high ground east and west of the highway. On 30 June the highway was open and a military convoy of 36 vehicles traveled from Pleiku to Kontum City without incident. During a support mission for an ARVN clearing operation near Rocket Ridge on 4 July, the 2nd Combat Aerial TOW Team expended four missiles to destroy a T-54 tank from a range of 2000 meters. Finally, on 6 July, QL-14 was opened to civilian traffic.<sup>6</sup> The 2nd Combat Aerial TOW Team remained in the Pleiku-Kontum area of MR-II until 18 July.



Based on intelligence reports of a suspected armor threat near Qui Nhon in the Binh Dinh Province, the 2nd TOW team departed for Lane Army Airfield in An Son for a ten-day operation in support of the 22nd ARVN Division.<sup>7</sup> While at An Son, the team conducted a successful night firing against an abandoned armor personnel carrier. This controlled test demonstrated the night capability of the heliborne TOW utilizing a spectral eyepiece, developed by the in-country Hughes engineers, and 2.75 inch flare rockets fired from AH-1G Cobras.<sup>8</sup> After the 1st Combat Aerial TOW Team's dismal display of night firing capability during the Battle of Kontum, Hughes engineers and

technicians were anxious to develop a make-shift eyepiece to give the XM-26 TOW system a temporary night firing capability.<sup>9</sup> Based on a lack of targets in the An Son area and a reported buildup in the southern portion of MR-I, MACV made the decision on 1 August to move the team once again, this time north to MR-I.<sup>10</sup>

While in MR-I, the 2nd Combat Aerial TOW Team was under the operational control of 11th Combat Aviation Group and further attached to F Troop, 8th Cavalry. Initially, the team operated from Marble Mountain Army Airfield near Danang until the airfield was closed as part of the US withdrawal plan. On 31 August they moved from Marble Mountain Army Airfield to Danang Air Force Base. While attached to F Troop, 8th Cavalry the team conducted operations from Danang and a forward base at the 2nd ARVN Division's headquarters at Chu Lai. This allowed them to support 2nd and 3rd ARVN Infantry Divisions and other 11th Aviation Group operations in southern MR-I. Due to the SA-7 surface-to-air missile threat and antiaircraft artillery (AAA) intensity in the northern sector of MR-I along with the inability of the UH-1B to fly nap-of-the-earth (NOE) with the XM-26 TOW system installed, the team was restricted from operations in the Hue-Quang Tri areas.

Having arrived in MR-I in May 72, an attack helicopter platoon of six UH-1M helicopters with SS-11 anti-tank missiles operated at NOE altitudes in the northern sector near Hue/Quang Tri.<sup>12</sup> The XM-26 TOW system was decidedly superior to the SS-11 as a helicopter anti-tank missile system in MR-I.<sup>13</sup>

The aerial TOW had a 5 to 1 advantage in single shot kill probability over the SS-11 missile.<sup>14</sup> Although the 2nd Combat Aerial TOW Team engaged a number of targets successfully in the MR-I, targets were not present in the numbers anticipated. Again, MACV made the decision to move the 2nd TOW Team to an area with increased enemy activity. As a result of the action around Saigon during September and October, the 2nd Combat Aerial TOW Team moved to Bien Hoa Air Base on 27 October to counter anticipated enemy moves around the Saigon area.

The 2nd Combat Aerial TOW Team commenced operations with the 12th Combat Aviation Group on 1 November. A significant armor threat had developed in MR-III and the TOW team was employed to counter the threat.<sup>6</sup> The team was attached to F Troop, 9th Cavalry and received missions from the Army Aviation Element, Third Regional Assistance Command. The TOW aircraft were employed daily with both air cavalry troops operating in the armor threat area. They were not only used to engage point targets, but were also employed in a reconnaissance role to further enhance the air cavalry mission.<sup>17</sup> Although the anticipated NVA armor threat never materialized in MR-III, the team did destroy one T-54 tank, two armored personnel carriers, and eight ammunition trucks.<sup>18</sup> Finally, **with the ceasefire on 28 January 1973**, the mission of the 2nd Combat Aerial TOW Team ended in Vietnam and the UH-1B helicopters with the XM-26 TOW system were retrograded back to the United States.

2. Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, pg. 1-2
3. Interview, author with LTC(Ret) Karl B. Hill, Commander of the 2nd Combat Aerial TOW Team, 24 Feb 94.
4. Ibid.
5. Ibid.
6. MACV Command History, Vol II, pp. K-25 - K-26.
7. Journal, G-2/G-3, SRAC, 17 Jul 72. Note. On 10 Jun 72, when BG Michael Healy succeeded Mr. John Paul Vann who had been killed in a helicopter crash, SRAG was re-designated SPAC: the Second Regional Assistance Command
8. Supplement to Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, pg. 1-3.
9. Interview, author with Mr. Ken Blum, Hughes Aircraft Company technician with the 2nd Combat Aerial TOW Team in Vietnam, 18 April 1994.
10. Message, COMUSMACV to Senior Advisor, SRAC, 31 Jul 72, subj: Deployment of Aerial TOW Team.
11. Interview, LTC(Ret) Hill.
12. Interview, author with LTC(Ret) John P. Kennedy, former Commander, F Troop 8th Cavalry and S-3, 11th Combat Aviation Group, 10 Apr 94.
13. Ibid.
14. A Preliminary Analysis of Anti-Tank Warfare in the Republic of Vietnam, Working Paper 1-72, CINCPAC Scientific Advisory Group, FPO San Francisco, Calif, 5 Jun 72.
15. Message, COMUSMACV to Senior Advisor, First Regional Assistance Command, 27 Oct 72, subj: Movement of Aerial TOW Team.
16. Interview, LTC(Ret) Hill.

The most important parts of John Burns' work were the conclusions that were drawn from and supported by his research. As stated at the beginning of this history, the accuracy and destructive power of the newly developed TOW on the vulnerable older

helicopters, and the survival capabilities of the proven AH-1G, were to come together in the first great tank-killing helicopter, developed by the mating of the two fantastic weapons systems. The combination would change the course of land warfare.

## **CHAPTER SEVEN**

### **CONCLUSIONS**

This chapter will analyze the combat actions of the 1st and 2nd Combat Aerial TOW Teams in Vietnam to determine the findings and conclusions relevant to the tactical results, system operation, employment system improvements and tactics. A comparative analysis of the performance of both teams will be presented, along with a discussion of training on the heliborne TOW system and the effectiveness of that training. Finally, conclusions drawn from the successful employment of the aerial TOW system in Vietnam will be presented that were key to the future development of the attack helicopter.

The ultimate test of a weapons system is its successful utilization under combat conditions to accomplish the purpose for which it was intended. Between 30 April 1972 and 11 January 1973, the two UH-1B helicopters fired a total of 199 TOW missiles - 37 in training and 162 in combat engagements. Of the 162 airborne TOW missiles fired in combat, 151 (93 percent) were reliable and 124 (82 percent) of the latter scored hits on a variety of targets. Among the targets destroyed were 27 tanks, 21 trucks, 5 armored personnel carriers, 3 artillery pieces, 1 anti-aircraft gun, 1 122mm rocket launcher, 5 machine gun positions, 2 57mm guns, 5 caves, 8 bunkers, 2 mortars, 2 bridges, 2 ammunition storage dumps, 2 anti-tank jeeps, and 1 house.<sup>1</sup> The TOW missile system was cited as having a very positive effect on ARVN morale due to the visible nature of this form of close support and its dramatic results against NVA armor.<sup>2</sup> The high success rate also convincingly demonstrated that the TOW missile was more than a tank killer, it was an accurate point weapons system that could be used for many different tactical applications. With the TOW missile's tactical flexibility, pinpoint accuracy and powerful warhead, the Army aviation leadership received the same results in combat as previously demonstrated in attack helicopter tests in the US and Germany.<sup>3</sup> With the two helicopter TOW systems proven so effective in Vietnam, the Army could clearly visualize the enhanced anti-tank potential which a far larger number of attack helicopters and TOW missiles would bring to a modern American division fighting a war against the Soviets in Europe.

The airborne TOW system operation proved to be very adaptable to combat operations. The high percentage of first round hits demonstrated that the stabilized optical tracking system was simple in operation and capable of effective employment in periods of marginal weather. The XM-26 TOW system performed very well and technical problems which did occur were minor and were handled by Hughes Technicians.<sup>4</sup> It is important to note that the XM-26 system, being a test bed, was not

designed for maintainability in the field, and as a result, required extensive laboratory test equipment and highly trained engineers and technicians to maintain it operational. Though problems of facilities and parts availability existed, the Hughes Technicians were able to maintain the systems operational and achieve a system reliability of over 90 percent for the entire period of employment in Vietnam.<sup>5</sup> The systems were "ready to go" and operational whenever the aircraft were operational, due to the efforts of the Hughes personnel and the fact that there were three XM-26 systems for the two aircraft, with the third system used for running spares and parts. Evidence also suggests that some of the system or missile failures may have been as a result of mishandling of the missiles at ARVN ammunition dumps, since some of the rounds were received with dented cases or end caps, smashed boxes, or with water in the boxes. <sup>6</sup>



The largest degradation of XM-26 system effectiveness was in the lack of limited visibility and night capability.<sup>7</sup> Even though there may have sufficient light to fly, the attenuation of light through the telescopic sight unit was such that target acquisition and engagement under low light conditions was difficult at best. This occurred under conditions where low light level existed, such as morning and evening twilight, heavy overcast or dark cloud shadows. The night capability of the XM-26 system was essentially nonexistent. Though successful nights firings were conducted, they were

under carefully controlled test conditions against targets that had been selected for their clarity and contrast with the background. All of the personnel interviewed concerning the night firings in Vietnam were in agreement that the XM-26 TOW system did not have a viable night employment capability. This degraded overall TOW system effectiveness since most enemy movements occurred at night, and unless the enemy was in an assault, the NVA armor unit camouflaged his assets during the day. The experiences of the 1st and 2nd Combat Aerial TOW Teams at night in Vietnam clearly demonstrated the requirement for a passive night vision system for target detection and tracking. Surprisingly enough, this requirement in the aerial TOW system was not fielded until 1989 when the C-NITE telescopic sight unit was delivered to the Army.<sup>8</sup>

The other major employment system improvement highlighted by combat operations in Vietnam was the need for a laser rangefinder.<sup>9</sup> This problem was probably less apparent during test firings at known targets as part of the USACDEC 43.6 Attack Helicopter - Daylight Defense Experiment. In combat, the aircrews were presented with a varied cross section of target types under conditions ranging from open terrain to under jungle canopy or in buildings. This made range estimation difficult, and enemy fire provided an incentive to engage targets at maximum possible range. A total of 11 missiles (8-by 1st Team, 3-by 2nd Team) were fired out of range while in Vietnam.<sup>10</sup> This fact presented a very strong argument for both range estimation training and a rangefinder.

While the aerial TOW was very successful in MR-II during the Battle of Kontum, **the tactics used by the teams would have been suicidal in a mid to high-intensity environment.**<sup>11</sup> The survivability of the two UH-1B TOW aircraft may be attributed to the element of surprise and the stand-off tactics of the aircrews. However, employed against an enemy force with better intelligence information from which to determine target priorities, the survivability of the two aircraft would have been questionable, especially if the enemy had employed a heat-seeking surface-to-air missile. The aircrews were not able to employ nap-of-earth (NOE) and pop-up tactics largely due to the power limitations of the overage UH-1B aircraft. The aircraft lacked sufficient power for many desirable combat maneuvers and firmly supported the need for a more advanced and more powerful aerial platform for the TOW. This fact limited the employment considerations available to the commanders in Vietnam. Clearly, the NOE tactics developed by 11th Aviation Group in MR-I during this same period were critical to subsequent material acquisition and tactical strategies of the attack helicopter in an anti-armor role.<sup>12</sup> Consequently, the developments in both MR-I and MR-II cannot be evaluated independently in terms of their influence on future attack helicopter development and force structure.

There was no significant difference between the performance of either or both of the TOW teams.<sup>13</sup> Both teams performed effectively under varied conditions of terrain, weather and enemy fire against various types of targets. Table 2 is a compilation of the firing results summary and overall performance summary for both TOW teams in Vietnam. It is important to note that any comparison of results achieved in combat is overshadowed by the plethora of hard targets which presented themselves to the 1st Team in a short period of time, contrasted with the less frequent availability of targets for the

second team. Interviews with key members of both TOW teams indicated a tendency on the part of both teams to overkill targets on occasion by firing several missiles where one or possibly two would have been sufficient. 14

**TABLE 2**  
**FIRING RESULTS SUMMARY COMPARATIVE ANALYSIS**

	<b>1ST TOW TEAM</b>	<b>2ND TOW TEAM</b>	
FIRED	109	67	
NO TEST	21	12	
SCORED - XM70 Trainer	88	55	
MISSES	2	6	
HITS	86	49	
HITS/FIRED	78.9%	73.2%	
HITS/SCORED	97.7%	89.1%	
NO TEST/FIRED	19.3%	17.9%	
	<b>1ST TOW TEAM</b>	<b>2ND TOW TEAM</b>	<b>RVN OVERALL</b>
SYSTEM PERFORMANCE %	92.6%	86.6%	90.4%
ASSIGNED CREW PERFORMANCE %	85%	85.7%	85.3%
OVERALL PERFORMANCE %	78.6%	73.1%	76.7%

SOURCE. Table 4-1 and 4-2, Supplement to Special Report - Vietnam, USACDEC, 20 Jul 73.

Finally, in terms of systems availability, operational effectiveness and the judgements of US advisors on the ground in Vietnam, both teams were relatively equal and effective, and the XM-26 system was regarded as an extremely effective combat support weapon.

One of the major advantages of the aerial TOW system over the other helicopter anti-tank system, the SS-11 missile system, was that of operator training. Although the XM-26 system was relatively simple to operate, training was, nevertheless, very important to effective system operation. A training program was both essential and necessary to master the operation of system controls and characteristics and to develop the hand-eye coordination essential for smooth and accurate tracking. Interviews with aircrews revealed that training with the XM-70 TOW simulator, which yielded an immediate tracking error after each mock firing, was very effective in refining tracking

performance.<sup>15</sup> However, missile firing reports indicated that in addition to the range estimation problem addressed previously, other essential training areas that required additional emphasis were the following: target acquisition and identification; system malfunction indicators to facilitate troubleshooting by maintenance personnel; and crew drill procedures.<sup>16</sup> Although the XM-26 system was easy to train on, these findings indicate the need for a comprehensive initial qualification as well as subsequent unit training program for attack helicopter organizations with anti-tank missile systems.

In conclusion, as a result of the successes of the 1st Combat Aerial TOW Team in Vietnam, thinking about the future development of the attack helicopter shifted towards a low cost moderate airframe with a single suppressive gun, point target missile system with laser rangefinder and infrared telescopic sight unit.<sup>17</sup> **The experiences of the Aerial TOW Teams in Vietnam was the final nail in the coffin of the CHEYENNE attack helicopter. With a combat-proven point weapons system, the Army was able to use the publicity to sell Congress on the Advanced Attack Helicopter Program.** As a result, the source selection board was convened in November 1972 to select the airframe for the advanced attack helicopter and initial production began in 1973. **Finally, with a demonstrated effective anti-tank missile system, the Army could accelerate the production of the TOW/COBRA to counter the rapidly-growing Soviet tank threat in Europe.**<sup>18</sup>

1. Fact Sheets: XM-26 System Test and Training Firings, 18 Sep 72; XM-26 Operational Firings, 14 Feb 73; and XM-26 Tactical Firing Results in Vietnam, 14 Feb 73, TOW Project Office, Redstone Arsenal, Alabama.
2. (1) Interview, COL(Ret) Pizzi. (2) Interview, COL(Ret) Todd. (3) Interview, COL Truby.
3. Interview, MG(Ret) Maddox.
4. Interview, author with Mr. Tom Zagorski, Hughes Aircraft Company Engineer during the deployment to Vietnam, 18 Apr 94.
5. Supplement to Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, pg 3-1.
6. (1) Interview, CW3(Ret) Whiteis. (2) Interview, Mr. zagorski. (3) Interview, LTC(Ret) Hill. (4) Supplement to Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, pg 3-2.
7. (1) Supplement to Special Report - Vietnam, 1st Combat Aerial TOW Team, USACDEC, pg 4-4. (2) Interview, CW3(Ret) Whiteis. (3) Interview, LTC(Ret) Hill
8. Interview, author with Mr. George Gaskill, Hughes Aircraft Company, 21 Mar 94.

9. Supplement to Special Report - Vietnam, 1st Combat Aerial TOW Team, USA  
CDEC, pg 5-3.



Sloniker note: The following is the 361<sup>st</sup> AWC account of that action that resulted in a shootdown of a 361<sup>st</sup> Pink Panther Cobra. First from 361<sup>st</sup> member, Forrest Snyder who provides some background:

*“The 361<sup>st</sup> Aerial Weapons Company (Pink Panthers) was at Camp Holloway in Pleiku in 1972. The unit had 12 Cobras and one Huey. During the offensive we were mostly aerial fire support for the entire world. We also did some work covering the H-10 and/or H-17 Cav little birds when the Cav couldn't get sufficient guns up. Mr. Jophn Paul Vann (The civilian in charge of all military operations in II Corps) made some kind of assinine decree that the Cav would fly so many hours a day & flew them all into PE in about two weeks.)*

*When the offensive hit, the 361st was very close to standing down – we had already had our final hail and farewell party and given everyone their going away gifts. As I recall, we had two vehicles left in the motor pool -- the CO's jeep and a 3/4 ton used by the armament section to run rockets (Dennis Trigg & Lynn Carlson could set you straight on that. Dennis was supply officer and Lynn was Armament Officer.)*

*The cross border stuff was still limping along on 30 Jun when I got shot. We were coming back from taking a hook with underslung water buffalo & replacement crew into Leghorn.*

*FOB moved from Kontum to Ban Me Thuot sometime between late April and early June. 1LT John Kinstrey, the launch officer, showed up at the Panther Pits at Camp Holloway one evening about dark, having driven a jeep down the road from Kontum after everyone else had moved. He left the jeep with John DeBay, our maintenance officer, and continued on by air. The jeep, which was painted black, became John DeBay's vehicle for running parts.*

*As I recall, the Easter Offensive in our AO started a bit later for us than elsewhere. We were getting shot at more, and were hearing news of tanks in the area. Even had a little bird shot down by a tank with a cannister round while we were covering the Cav, but no real ground action until a couple of days before Tan Canh fell. (12 April?? again, I need to check.) We had a teams on station all day the day before that didn't get back to Holloway until nearly 9 pm. Lynn Carlson was hot to rearm, refuel and get back up there because "those people are in a world of hurt and we're the only support they've got." Not wanting to lose a bird and crew at night, the CO restrained him. We launched four snakes before dawn the next morning and arrived on station just after first light.*

*On 9 May, Bill Reeder & Tim Conry were flying lead. WO1 Steve Allen (six feet tall and six inches wide with florescent red hair, AKA Flame) and CPT Bob Gamber were flying wing with Gamber in the front. They were first team up and got the mission to support at Ben Het which was under tank attack.*

*I was part of the second team up (WO1 Jim Siegfried with yours truly in his front seat, and CPT Owen B. (Skip) McFarland and I think WO1 Sam Scott), standing by at Bikini Beach in Kontum, watching the arc lights go in on the mountains east of town. We got word that a snake had been shot down at Ben Het and with it a request to escort the B Model TOW bird to Ben Het to look for tanks. No hesitation there --we took off because those were our guys. One of the CAVs -- forget whether H-10 or H-17 -- was already en route.*

*We got most of the story over the radio en route. Here's how I was finally able to piece things together:*

*Our guys were escorting a 57<sup>th</sup> Huey aircraft that had a resupply of LAWs. Bill took some hits and lost his engine. He called "Flame out!" and entered auto rotation. Flame broke around and put a pair of nails down in the area Bill was going to land in, then took a 50 cal in the chest. Bill landed and the aircraft burned.*

*Bob Gamber wrestled the controls away from Flame and set down on the road about five miles south of Ben Het, toward Dak To. The C&C bird came down, picked up Flame, and took off for the hospital in Pleiku. Bob Gamber got in the back seat of the snake and recovered it to Pleiku, flying solo. (We met them about half-way there.) The crew chief in the C&C kept Flame alive all the way back to the hospital where the surgeons removed one lung and stitched up his aorta. Flame was sitting up and doing breathing exercises the next day.*

*When we got to Ben Het with the TOW bird, Bill's bird was a pile of white ash with a tail boom. The American advisor on Ben Het reported seeing one of the helicopter crew get out and head for the tree line. No word on the other. The TOW bird scanned helicopter and the tree lines with his scope and saw nothing. We did not get shot.*

*The Cav was ready to go in, recon, and recover but were prevented by Mr. Vann who was afraid of losing another aircraft. We were released to RTB Pleiku and stand by.*

*The Cav were finally permitted to go in at dusk. They recovered Tim Conry from where he was right next to the aircraft. According to the loach driver that brought him back (Charlie Elliott -- he was XO of 229 at Campbell in '82), he was alive when they picked him up. According to the reports we got from the hospital later, he was DOA and had been dead for several hours. Most of us in the unit are of the impression he could have been saved had Mr. Vann let the Cav go in when they got there. Tim had been in country exactly 30 days.*

*We heard nothing further about Bill until his name came out on the list nine months later. His plane out of North Vietnam landed the day after I checked out of Walter Reed. I made sure I was watching.*

Sloniker note: The following is the result of talking to Bill Reeder at the 99 VHPA reunion at Nashville.

*“On May 9<sup>th</sup> we were flying cover for everybody and started with tanks in the wire at Polei Krang. When it came time to rearm and refuel we recovered to Kontum. Next it was time to cover “Hawks Claw” the UH-1B TOW birds. They had been launched to attack PT 76s that were attacking Ben Het and destroyed 5. We went back to Kontum to rearm and refuel, this time to cover a 57<sup>th</sup> UH-1H on a resupply mission to Ben Het. The slick got the load in. We were flying at 200 feet when we were hit in the tailrotor and engine. The aircraft was spinning and on fire so I did not have a lot of options after the aircraft was hit.*

*We crashed up right, the aircraft was on fire and the ammo was cooking off. Both Tim Conry and I broke our backs in the crash. Tim, unfortunately had severe head injuries because of the sight in the front. He crawled out of the aircraft and passed out in a bomb crater. I crawled around looking for Tim, but could not find him. I knew it was important to get away from the aircraft, based on my survival training and hid in the foliage. I watched the night of the 9<sup>th</sup> as the OH-6 picked up Conry. I just could not get out in the open quick enough because of my injuries. I escaped and evaded for 3 days*

Bill's first tour was flying Mohawks in the 131<sup>st</sup> SAC at Phu Bai beginning in October 1968. On March 1, 1969 he was shot down but managed to outrun the enemy soldiers and was rescued after one very long hour on the ground. His second tour began in December 1971.

Bill continues: *“I managed to avoid capture for three days, but soon they heard me and five North Vietnamese soldiers surrounded me. My back was broken and I had one crushed vertebra. I shrank about one inch during my eleven months in captivity. The interrogator tied me to a tree and questioned me for three hours, slapping me around a little. However, even though the interrogating continued for three days, I refused to sign statements that I had dropped gases, firebombs, or germs.*

*We hiked through the jungle for three days. I was forced to carry a rucksack full of uncooked rice. With my broken back and a wound in my ankle, this was very painful. We came to my first POW camp in Northern Cambodia. I was placed in a 12 x 40 by 4 1/2 foot cage of bamboo with 25 South Vietnamese prisoners. I was the only American. The prisoners were all piled up. They had a wooden stock through the center of the cage into which they put our feet at night and closed it.*

*After two weeks I was moved to a cage with one other American (CPT Wayne Finch-B/7-17 Cav) and four Vietnamese. It was 5 1/2 by 10 feet. Shortly thereafter we began our walk to North Viet Nam, 200 miles up and down mountains. Enroute, I got weaker and was separated from Finch. I was in poor condition and could walk no further. At the time I was with ARVN POWs captured from the 22d ARVN Div. One ARVN LTC took action concerning my plight. He had a gold Cross pen sewn into his pants. He traded the pen for six potatoes, cooked them, and gave them to me to regain my strength. I have never forgotten this man's kindness. He later was released and somehow got to America. Today he owns a liquor store in San Jose CA.*

*Unfortunately, Finch died of dysentery on September 6, 1972 while on the trail. As my strength returned I began my trek north again. However, my ankle became so infected, even my knee was twice its size from the spreading infection. They told me they would have to amputate, but I asked that they try penicillin, even though I had previously been very allergic to it. For some reason the adverse reaction to the drug never occurred, and by the time I reached Hanoi, the wound was almost healed.*

Bill Reeder returned home in February 1973.

1. During the time of employment in MR-II, the 1st Combat Aerial TOW Team never received a single

hit by enemy air defenses. The lack of enemy air defense influence on engagements by the airborne TOW can be attributed to the long standoff range and altitude maintained by the aerial TOW teams. Also, the TOW Team developed very close operational procedures and teamwork with the dedicated UH-1 command and control aircraft from the Air Cavalry troops, the 57<sup>th</sup> AHC and the AH-1G gunship escorts from the 361st Aerial Weapons Company employed on every mission. When the TOW Team was employed in MR-II, the enemy air defense capabilities included .51 caliber machine guns and 23mm and 57mm anti-aircraft weapons. The NVA did not possess a heat seeking missile air defense capability during this period in MR-II. The enemy air defense fires were active and were primarily directed at air cavalry and Cobra helicopters, USAF tactical aircraft, and forward area controllers that flew in close proximity to the targets. The TOW teams operated at an average altitude of 2500 feet. This was deemed appropriate in the absence of an enemy surface to air missile (SAM) air defense capability combined with the small arms ground fire threat at lower altitudes

2. The airborne TOW concept proved to be highly adaptable to combat operations.<sup>80</sup> Though installed in an overage UH-1B aircraft, the TOW stabilized optical tracking system proved to be simple in operation and capable of achieving a very high percentage of first round hits. The airborne TOW demonstrated its capability to track easily and to destroy targets with surgical precision and with no collateral damage. As aircrews gained more expertise with the system, they were able to make multiple launches on the same target run if the first missile malfunctioned.<sup>81</sup> When engaging multiple targets, the crews discovered it was also possible to engage the second target a few seconds after impact of the first missile. It was also successfully employed during periods of marginal weather.

#### **TOW FIRINGS**

**1ST COMBAT AERIAL TOW TEAM - 2 MAY TO 12 JUNE 1972**

#### **COMBINED KILLS**

**24 Tanks (10 T-54, 6 PT-76, 8 M-41)**

**4 A.P.C.**

**2 Artillery Pieces (1 105mm, 1 unknown type)**

**7 Trucks (6 2-1/2 ton, 1 3/4 ton)**

**1 Anti-aircraft position (Twin 23mm)**

**2 Machine Gun Positions (1 12.7mm, 1 30 cal)**

**1 Wooden bridge**

**1 Hut with small arms ammunition**

**1 Small arms ammo dump at abandoned fire base**

**1 122mm rocket launching position**

**3 Bunkers**

**47 TOTAL KILLS**

#### **SYSTEM PERFORMANCE**

<b>Practice Firings</b>	<b>21</b>
<b>Combat Firings</b>	<b>85</b>
<b>TOTAL FIRINGS</b>	<b>106</b>

7 Combat Missile Failures  
 3 Missile Failures (2 no IR source,  
 1 no fit motor)  
 1 System Failure (power supply cut off at firing)  
 3 Failures to capture missile (could have been system, missile or crew -  
 unknown)  
 4 Practice Missile Failures

**96 TOTAL GUIDED FLIGHTS**

1 Missed Target  
 3 Known Misses (Gunner Tracking Error)  
 8 Out of Range (2 of these at night)  
**85 TOTAL TARGET HITS**

While many thought the cross border operations supporting missions in Laos ended in 1971, once again, authors failed to check with the Army Aviators. This is Forrest Snyders account of how he was wounded on 30 June 1972:

*" We were returning from a hook escort to Leghorn (an operating base in Laos), light on fuel but with full ordnance. Dropped down low-level about five north of Pleiku air base -- 130 kts, skids in the trees -- and called "Pleiku, Panther 023 is two cold snakes five north for crossing your western extended low level landing Holloway."*

*All of a sudden, there's this nasty little "pop!" and a new hole in the VHF radio where there shouldn't be a hole. Before I could punch the floor mike and say "Taking hits!" there is a gentle zapping sound and my left foot jumps and goes numb. So I grab the controls and announce "I'm hit!"*

*No answer. Check gauges -- engine is still running. Check caution panel -- lit up like the proverbial Christmas tree. Reset master caution light. Announce loudly, "I said I'm hit." and get the one answer I really don't want to hear. "Yeah. Well I am too."*

*Not knowing what else to say, respond with "Roger. I have the controls." and receive encouraging answer. "No. I can still fly. Where'd they get you?"*

*Check damages. At least three holes, but no spurting blood. "Left foot, leg, and hand."*

*Response: "Great. They got me in the right foot."*

*Back seater was Jim Siegfried, aka Ziggy, who used to drive people crazy practicing his Mayday call on intercom. He made the call and then asked me fly while he talked on the radio.*

*I took the controls. Zig told a slick we are going to land at Artillery Hill. I set us up on a left base for Arty Hill, clicking the force trim to allow me to apply left pedal by releasing right. Zig asks for the controls for landing. I say "Not even all the way." and follow him through. I'm too close to let him crash me. Turned final, see no room on the runway. It's clogged with CH-47s. Continue turn to final for 180 and land in a vacant lot across the road at Pleiku LSA.*

*Ziggy shuts down without a two minute cool-off. I look and see two crew chiefs that could play line for the Packers. "OK." they say. "Where you hit? We're going to get you out." At this point, I imagine them dragging my sore leg over the side of the bird and then dropping me on my head, so I opt to exit under my own power and let them support me as I hit the ground. Zig, braver than me, lets them pull him out and doesn't get dropped.*

*Anyhow, I end up on the floor of a slick that had neither seats nor doors, sliding inexorably toward the inside door during the phenomenally out-of-trim left turn that sets us up for landing at the evac hospital in Pleiku. It is possible to hold on to the cargo tie downs of a Huey with your fingertips! I am in the hospital within 15 minutes of being hit.*

*The maintenance officer was pissed since we got 26 holes in an aircraft that had 109 total hours on it. The crew chief was pissed because I bled all over his nice new aircraft.*

