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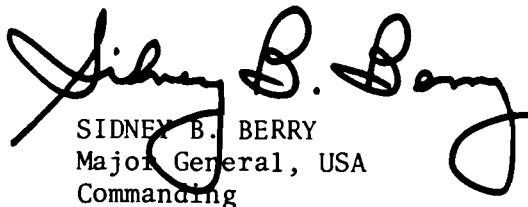
5 November 1973

SUBJECT: Airmobile Operations in Mid-Intensity Antiaircraft Environment

SEE DISTRIBUTION

1. Here for your information and professional consideration is an account of "Airmobile Operations in Support of Operation LAM SON 719". As we move ahead in building our airmobile team, some of the division's experiences during LAM SON 719 may be helpful today.
2. Operation LAM SON 719 was an armor-airmobile operation conducted in Laos during February-April 1971 to destroy major North Vietnamese supply and logistical bases and to block and disrupt operations of the communist transportation and communications network popularly called the Ho Chi Minh Trail. All ground soldiers were Vietnamese. All air support was American. The 101st Airborne Division (Airmobile) provided the command and control for all rotary wing aircraft and most of the 600 plus helicopters which supported LAM SON 719 during the average day.
3. As you review this account, I suggest that you note especially the following:
 - a. The enemy used no missiles against our helicopters.
 - b. While weather was a major factor, only rarely did bad weather preclude airmobile operations all day long.
 - c. Paragraphs 7-10 contain the meat of the account.
4. This account is in no way offered as what should be in future airmobile operations. Rather, this is what was in a past airmobile operation in which the Screaming Eagles played a key role. Our mission is to develop airmobile techniques for now and the future.

1 Incl
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SIDNEY B. BERRY
Major General, USA
Commanding

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DEPARTMENT OF THE ARMY
Headquarters, 101st Airborne Division (Airmobile)
APC 96383

AVDG-AC

20 March 1971

MEMORANDUM FOR RECORD

SUBJECT: Airmobile Operations in Support of Operation Lam Son 719

1. PURPOSE. This memorandum records my personal observations, evaluation, and views concerning airmobile operations conducted 8 February - 15 March 1971 in support of Operation Lam Son 719 against NVA forces in Laos.
2. OPERATIONAL FOCUS. The memorandum focuses on combat operational aspects of airmobility in support of Lam Son 719. In selecting the operational focus, I have neglected the magnificent performance and significant accomplishments achieved in administrative, logistical, supply, and maintenance support areas which have made possible these airmobile operations. But that is the subject for a separate memorandum.
3. BASIS. I base my evaluation and remarks on personal participation in and observation of the experience of aviation units of the 101st Airborne Division (Airmobile) and additional aviation units under division operational control conducting airmobile operations in support of RVN ground forces in Laos during Operation Lam Son 719. Lam Son 719 began on 8 February 1971 when RVN ground forces supported by US aviation assets launched multiple airmobile combat assaults against NVA forces in Laos. The operation reached its high water mark on 6 March 1971 with a two infantry battalion, one hundred-twenty troop-lift helicopter airmobile combat assault into the Tchepone area.
4. OPERATIONAL ENVIRONMENT. The operational environment of Lam Son 719 has most or all of the characteristics ascribed to "mid-intensity conflict." The area is home territory for the NVA, being a long-occupied, extensively-developed, heavily-defended base area, staging area, and communications and transportation center.

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Resident NVA forces include administrative, logistical, quartermaster, and transportation units with organic security and air defense forces. Additionally, the NVA has moved large numbers of major units into the area to oppose RVN ground and US aviation forces. Our best count of NVA forces in the operational area includes elements of five divisions, twelve infantry regiments, at least two battalions of armor regiment, elements of an artillery regiment, and at least nineteen AB battalions.

During Lam Son 719, divisions, regiments, and battalions have opposed each other. Both sides have employed tanks, artillery, rockets, mortars, and a complete family of infantry weapons. NVA forces have opposed Allied air and airmobile operations with heavy antiaircraft fire from an extensive, sophisticated air defense system equipped with a wide variety of modern AA weapons ably supported by fires from infantry weapons. Our helicopters have been engaged by fire from small arms, 12.7mm and 14.5mm machine guns, and 23mm, 37mm, and 57mm AA weapons. The enemy has fired several SAM's at fixed-wing aircraft in and near the operational area.

One can accurately describe this as a hostile air defense environment.

5. INFLUENCING FACTORS. Several factors influence airmobile operations in support of Lam Son 719. They include:

a. Terrain. The operational area is generally mountainous and heavily vegetated. Through the center of the area runs the Xe Pon River valley in an east-west direction with Highway 9 generally paralleling the north bank of the river from the RVN-Laotian border to Tchepone. South of the Xe Pon River, an escarpment rises abruptly from the river valley and stretches east-west from just west of the RVN-Laotian border to Tchepone. The escarpment overlooks the Tchepone area and provides a high ground approach to Tchepone as opposed to the low ground approach of the Xe Pon valley and Highway 9.

b. Landing zones. Few natural landing zones are found in the operational area, and these are usually one-ship or two-ship landing zones. A few potential LZ's exist in the Xe Pon River valley, a few LZ's exist on or near the tops of some mountains and hills, and a few LZ's exist on cleared areas on slopes. Usually it is both desirable and necessary to construct new LZ's with USAF-delivered weapons at places selected by the ground and air mission commanders. Most of the landing zones used in Lam Son 719 have been one-ship or two-ship LZ's requiring hovering approaches and departures.

c. Weather. Weather has had a major effect on the timing of airmobile operations in support of Lam Son 719. Early morning fog, rain, and cloud cover has frequently delayed airmobile and tactical air operations until late morning or early afternoon. Only rarely has bad weather precluded airmobile and tactical air operations all day long. Occasionally airmobile operations have been conducted under ceilings and weather conditions that precluded employment of close

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tactical air support. On some days sharply reduced visibility caused by a combination of natural haze, smoke and dust raised by artillery and air strikes, and flying directly westward into the afternoon sun has complicated command and control and created flying safety hazards for airmobile and tactical air operations.

d. Enemy air defense. The NVA has skillfully deployed throughout the operational area an extensive, sophisticated, well-integrated, highly mobile air defense system. Large numbers of antiaircraft weapons of several calibers are well-positioned, well-camouflaged, well-dug-in, and well-employed. There is evidence that some antiaircraft weapons are radar-controlled. Whenever the opportunity occurs, the NVA employs its entire family of antiaircraft, artillery, and infantry weapons against aircraft in the air and on the ground. The NVA quickly masses its antiaircraft weapons around friendly troop positions and areas he expects us to use as landing or pick up zones.

An effective technique used by the NVA is employment throughout the operational area of ten-twelve man combat teams armed with small arms, at least one 12.7mm machine gun, at least one 82mm mortar, and one or two RPG rocket launchers. Positioned on or near critical terrain, located in bunkers and trenches, well-supplied with ammunition, these combat teams attack by fire aircraft and infantry operating within their weapons range. The teams are capable of placing 12.7mm machine gun and 82mm mortar fire on virtually every friendly position, landing zone, and pick up zone in the Lam Son 719 operational area.

The NVA infantry and AA gunners frequently use a "hugging" tactic, moving in as close as possible to friendly forces occupying positions and securing landing and pick up zones. NVA forces sometimes close to within 20 or 30 meters of friendly units manning perimeters and positions. This "hugging" tactic affords the NVA protection from friendly artillery, air, and armed helicopter strikes which friendly forces are reluctant to bring in too close to themselves and permits the NVA to direct a heavy volume of short-range small arms, AA, and RPG rocket fire against helicopters flying in and out of the friendly position.

NVA forces have registered mortar, artillery, and rocket fires on most potential landing or pick up zones in the area, particularly those on high ground. Consequently, we expect every landing and pick up zone to come under indirect fire attack soon after any airmobile operation begins.

Enemy action is such that every airmobile operation, even single-ship resupply or medical evacuation operations, must be planned and conducted as a combat operation, complete with fire plan, escorting gunships, and plans for securing and recovering downed crews and aircraft.

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In brief, the NVA is usually quick to engage aggressively with fire from all weapons any aircraft passing within range. The NVA air defense system is built around the fire of numerous 12.7mm machine guns scattered throughout the battle area supplemented by the fires of larger caliber antiaircraft weapons for high-flying aircraft and the fires of small arms, mortars, artillery, and rocket launchers for aircraft flying in and out of landing zones, pick up zones and friendly troop positions surrounded by NVA forces employing the "hugging" tactic.

6. SPECIAL FACTORS. Two special factors are worthy of note in any evaluation of airmobile operations in support of Lam Son 719: combined nature of the operation and task organization of the airmobile aviation assets.

a. Combined operation. Lam Son 719 is a combined operation conducted under a unique set of circumstances. The operation is being conducted across an international boundary which sharply and significantly defines roles of the two participating parties and delimits the role of the US forces. US personnel are specifically enjoined from going on the ground in Laos, and RVN units operate in Laos without US advisors and liaison parties. RVN provides and commands the ground forces which operate against NVA forces and bases in Laos. US provides and commands the aviation and airmobility assets and the bulk of the supporting firepower. CG, I Corps, ARVN plans and commands the ground campaign in Laos. CG, XXIV Corps, USA commands all supporting US Army forces and plans and coordinates airmobile operations in support of the ground campaign planned and commanded by CG, I Corps, ARVN. This command arrangement has worked with remarkable effectiveness and brought about the significant success achieved by operation Lam Son 719 to date. However, this unique combined operation lacks the unity of command which characterizes unilateral US Army airmobile operations in which a single commander commands both the ground and supporting aviation units and operations. Therefore, some of the unique command arrangements and coordination and cooperation which have worked well during Lam Son 719 are atypical of command arrangements found in normal US Army airmobile operations. In particular, the necessarily close working relationship between the Vietnamese and US air mission commanders in planning and conducting airmobile assaults has truly been based on cooperation and coordination. There have been some language problems, but they have been resolved satisfactorily.

b. Task organization. A special airmobile task organization has been created to provide the extensive airmobile support required by Lam Son 719. This task organization is built around the structure of the 101st Airborne Division (Airmobile) by supplementing the division's organic assets with aviation and air cavalry units from other divisions and the 1st Aviation Brigade. The division's 101st Aviation Group has operational control of supplemental aviation units, its 2d Squadron, 17th Air Cavalry has operational control of supplemental air cavalry units, its Support Command establishes forward refueling and re-arming points and provides appropriate logistical and maintenance support, and the division itself commands and controls airmobile operations in support of Lam Son 719.

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The aviation and air cavalry units comprising the Lam Son 719 airmobile team have diverse backgrounds. Some units are accustomed to operating in the terrain of northern Military Region I, some have been operating in the lowlands of Military Regions III and IV, and some units come from Military Region II. One unit was scheduled to leave the Republic of Vietnam and return to the United States within twenty days, when it was placed in support of Lam Son 719. CH-53s from the US Marine Corps support heavy-lift operations.

That from the beginning this quickly-constituted airmobile team has been operationally effective to such an outstanding degree while meeting unique challenges is testimony to the spirit, dedication, flexibility, mission-orientation, and professional competence of the units and individuals comprising the team.

7. **AIRMOBILITY PRINCIPLES SOUND.** Our experience in conducting airmobile operations in support of Lam Son 719 confirms the soundness of the concept and principles of airmobility developed by the US Army. We have, of course, modified and adapted specific tactics and techniques to cope with the operational environment. But airmobility principles and concepts have proven sound and valid.

8. **THE AIRMOBILE TEAM.** The airmobile team includes elements for command and control, reconnaissance, firepower, troop-lift, heavy-lift, and support. Gunships are integral parts of the reconnaissance element (air cavalry gunships), the firepower element (aerial rocket artillery gunships), and the troop-lift element (escort gunships) and are used habitually to escort the heavy-lift and support elements.

Following comments pertain to each element of the airmobile team as it functions in support of Lam Son 719:

a. Command and control element. Consists of the ground and air mission commanders, their deputies, and staffs who plan, coordinate, and direct an airmobile operation. There must be enough C&C aircraft and parties to provide continuous airborne command and control over each critical point of the operation. The ground and air mission commanders ride in the same C&C aircraft. All other C&C aircraft must also have representatives of the ground and air mission commanders who are authorized to make decisions. As many as four C&C aircraft and parties may be required for an airmobile operation involving extraction of troops from one field location and a combat assault into another field location, particularly when both the pick up and landing zones may be attacked by enemy fire simultaneously, a frequent occurrence in Lam Son 719. Under these circumstances, one C&C aircraft and party is required over the PZ, one over the LZ, and two others are required to replace on station the principal C&C aircraft and parties. Before every airmobile operation, ground and air mission commanders clearly designate succession of command down to the lowest level of command.

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b. Reconnaissance element. Consists of air cavalry units who perform the classic cavalry mission of reconnaissance and security. The air cavalry troop is the smallest unit normally assigned a reconnaissance and security mission. Prior to combat assaults, large resupply missions, and heavy-lift operations, air cavalry reconnoiters flight routes to and from the objective area, tentatively selects landing and pick up zones, detects enemy activity and locates targets, and directs attacks by supporting firepower on enemy forces, weapons, and installations and suspicious areas in the objective area. The air cavalry commander initiates the preparatory fires on the landing and pick up zones, the approach and departure routes, and appropriate portions of the objective area. When the ground and air mission commanders begin the combat assault, the cavalry commander shifts his reconnaissance and security activities to adjacent and supporting areas and continues his mission until the airmobile operation is completed. The air cavalry commander plays a major role in target acquisition and direction of supporting fires, and he can assume interim command and control of the airmobile operation, if the need arises. When a single airmobile operation involves simultaneous extraction from one field location and combat assault into another field location, one air cavalry troop is employed over the PZ and a second troop over the LZ. The air cavalry commander is accompanied by an artillery liaison officer and works directly with a USAF forward air controller flying overhead and working as an intimate member of the reconnaissance-firepower team. It is impossible to exaggerate the value and importance of the air cavalry reconnaissance element of the airmobile operations team.

c. Firepower element. Consists of all who bring destructive and suppressive firepower to bear on the objective area, particularly on and around the landing and pick up zones. The firepower element includes ground artillerymen, aerial rocket artillerymen, gunship pilots, and USAF liaison officers, forward air controllers, and crews of B-52 bombers and fighter bombers. The employment of the firepower element is planned, coordinated, and directed by the ground and air mission commanders ably assisted by the air cavalry commander. The governing principle is to place maximum firepower in minimum time in and around landing and pick up zones and along approach and departure flight routes. Massive and accurate application of preparatory firepower does more than any other single factor to guarantee success of an airmobile operation, particularly a combat assault.

While all sources of firepower contribute to the success of a combat assault, the mass of destructive firepower is delivered by the USAF. Multiple B-52 strikes prepare the objective area. Commando vaults and daisy-cutter bombs construct landing and pick up zones and alternate touchdown points. Bombs, rockets, CBU, napalm, and 20mm gunfire destroy or neutralize enemy weapons, positions, and troop units on or near the landing zone. Then USAF aircraft lay a smoke-screen to shield troop-lift aircraft from enemy fire and observation as they enter and depart the landing zone.

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The role of artillery has been somewhat limited during airmobile combat assaults in Lam Son 719. This is due to language problems and the relatively low density of friendly artillery on the battlefield, particularly as combat assaults have moved westward into Laos. Artillery fire is generally employed in both suppressive and destructive roles on the flanks of landing and pick up zones.

Helicopter gunships employed in the air cavalry, aerial rocket artillery, and escort roles provide a significant, unique capability to the firepower element. The helicopter gunship has a capability for detecting and immediately engaging battlefield targets of opportunity in close proximity to friendly troops that is unmatched by any other weapons system in the US inventory. Armed helicopters operate under low ceilings and weather conditions that restrict or preclude use of tactical air in close support of ground units.

The air cavalry commander plays a key role in acquiring targets and directing fire on those targets.

The air cavalry-armed helicopter-artillery-tactical air team is an unbeatable reconnaissance-target acquisition-firepower combination.

d. Troop-lift element. Consists of the troop-lift helicopters and their escort gunships. The troop-lift is the central element of the combat assault, the most important, demanding, difficult of all airmobile operations. Troop-lift aircraft are the most lucrative, vulnerable targets for enemy fires. Therefore, everything possible is done to secure the flight and landing of the troop-lift aircraft with their priceless human cargo. Flight routes, flight altitudes, approach and departure routes, landing zones and pick up zones, are all selected and prepared appropriately with firepower to insure maximum security for the troop-lift. Spacing of aircraft is determined primarily by the size of landing and pick up zones. The crucial portion of the combat assault begins with the touchdown in the landing zone of the first troop-lift aircraft and continues until sufficient troop strength is on the ground to sustain itself.

e. Heavy-lift element. Consists of CH-47, CH-54, and CH-53 aircraft used to lift and transport heavy equipment and bulk supplies and their escort gunships. The heavy-lift aircraft bring into a landing zone bulldozers which prepare artillery positions, clear fields of fire, and dig in key installations and ammunition storage areas; artillery pieces and ammunition; CONEX containers equipped as communications centers and tactical command posts; barrier and fortification construction material; fuel, food, water, ammunition, and other bulk supplies or heavy equipment which cannot be hauled by smaller aircraft. Phasing of heavy-lift aircraft into a landing zone depends upon such factors as progress of the combat assault into a landing zone, the clearing and securing of the landing zone and vicinity, fire support plan, relative freedom of the landing zone from enemy fires, and the ground commander's tactical plan. The large size of heavy-lift aircraft and the necessity for slow hovering flight when approaching or departing a landing zone make heavy-lift aircraft especially

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vulnerable to enemy fire near and on the landing zone. Frequently, it is appropriate to intersperse heavy-lift aircraft in the stream of troop-lift aircraft going into a landing zone. When this is done, the heavy-lift aircraft is given the right of way. Heavy-lift operations require continuous airborne command and control aircraft and parties just as any other phase of the airmobile operation.

f. Support element. Consists of aircraft and parties who play a supporting role to the other elements involved in an airmobile operation. The support element includes aerial rifle platoons prepared to land and secure down aircraft and crews; chase ships whose mission is promptly to extract crews of downed aircraft; maintenance aircraft prepared to land riggers to rig downed aircraft for extraction and recovery; medical evacuation aircraft which orbit in the objective area alert for quick evacuation of casualties; and escort gunships. These aircraft and personnel have responsibility for missions ancillary to the combat assault itself but of crucial importance to those participating in the operation. Most of the support element responsibilities and activities pertain to security and recovery of downed crews and aircraft. A separate air mission commander and C&C aircraft and party is required for the support element in a large airmobile operation. During Lam Son 719 support operations are planned and coordinated as carefully and thoroughly as the combat assault itself.

NOTE: In operations in RVN, aerial rifle platoons of the air cavalry squadron secure and recover downed crews and aircraft. During Lam Son 719 in Laos, aerial rifle platoons have been formed from the Black Panther Company, the elite Ranger company of the 1st Infantry Division, ARVN, which operates under the operational control of the 2d Squadron, 17th Air Cavalry.

9. TECHNIQUES. Specific techniques employed to cope with the operational environment of Lam Son 719:

a. Command and control. Provide enough C&C aircraft and parties for continuous airborne command and control over each critical point in the airmobile operation. Provide separate air mission commanders and C&C aircraft and parties for each element of the airmobile team freeing the senior air mission and ground commanders to concentrate on the combat assault itself with full confidence that responsible commanders are handling effectively all other aspects of the operation.

b. Reconnaissance. Thorough, early reconnaissance of flight routes, landing and pick up zones, and entire objective area by air cavalry. Continuous reconnaissance during conduct of the airmobile operation, particularly the combat assault. Air cavalry selects within an area designated by the ground commander recommended landing zones, pick up zones, flight routes, approach and departure routes prior to arrival of air mission and ground commanders. In conjunction

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with artillery and forward air controller, air cavalry commander commences preparatory fires on landing zone and approach and departure routes. After the ground and air mission commander arrive at the objective area and assume direction of preparatory fires, air cavalry continues reconnaissance activities around the objective area and assists in target acquisition and direction of supporting fires. When the ground and air mission commanders judge the landing zone and approaches to be adequately prepared for the combat assault, they shift supporting fires and direct the air cavalry commander to conduct low-level reconnaissance of the landing zone to determine if it is ready for the combat assault to begin. This final reconnaissance just before the launching of the combat assault is the most crucial reconnaissance of all. The air mission and ground commanders usually approve the air cavalry commander's recommendation either to begin the combat assault or to employ additional preparatory firepower.

c. Selection of landing zone. Vary practices and patterns in selecting landing zones. Use constructed LZ's in preference to natural LZ's. Use slope and lower ground LZ's in preference to highest ground LZ's. High ground landing zones are vulnerable to pre-registered enemy mortar and artillery fires and permit enemy weapons on surrounding low ground 360 degree coverage of approach and departure routes. Landing zones on slopes and on relatively low ground are less likely to be anticipated by the enemy, less likely to receive pre-registered indirect fire attack, and offer some defilade from enemy fires. Constructed LZ's have obvious advantages over natural LZ's, the principal one being that their location is unexpected and require the enemy to make new calculations. Whenever possible, a minimum of three relatively widely separated touchdown points are constructed in the same general LZ area to permit aircraft to shift from one touchdown point to another when enemy fire zeroes in on the touchdown point being used.

d. Determination of LZ time. LZ time and the commencement of a combat assault are keyed to adequate firepower preparation of the landing zone and approach and departure routes rather than to an arbitrarily predetermined time. The ground and air mission commanders have the authority to establish LZ time whenever they decide that the LZ has been adequately prepared by supporting firepower for safe insertion of the troop-lift aircraft.

e. Firepower. Concentrated, massive volumes of firepower are placed on landing zones, adjacent areas, and along approach and departure routes prior to all combat assaults. Air strikes, artillery, and armed helicopter fires are employed in the preparatory fires. Of these fires, air strikes are most destructive and decisive. At a time the ground and air mission commanders consider the landing zone and approaches to have been adequately prepared with firepower, they shift the fires to adjacent areas and send the air cavalry to conduct low-level reconnaissance. If the air cavalry draws enemy fire or sees enemy activity or installations or suspicious areas which he judges to require additional preparatory firepower, he recommends resumption of preparatory fires.

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The fires are resumed until once again the ground and air mission commanders decide that the time has come to shift the fires and have the air cavalry conduct another low-level reconnaissance. Only when the air cavalry recommends and the ground and air commanders decide that the landing zone and approach route firepower preparation is adequate does the air mission commander launch the combat assault. When the combat assault begins, supporting fires shift to adjacent targets and areas. The supporting fires continue until the combat assault is complete.

All commanders are alert to the possibility of the NVA concealing themselves and withholding fire during the air cavalry's low-level reconnaissance in order to deliver surprise fire against the troop-lift aircraft when they enter the landing zone.

f. Air strikes. The massive firepower provided by air strikes is especially useful in support of airmobile operations, particularly combat assaults. Multiple B-52 strikes frequently begin preparatory fires on objective areas for combat assaults. Tactical air strikes are employed to assist in preparing landing zones and approach and departure routes for combat assaults. Ideally, a forward air controller is continuously overhead and air strikes are scheduled on station every ten or fifteen minutes from beginning of preparatory fires until completion of the combat assault. In Lam Son 719 both Vietnamese and US commanders normally give first priority of air strikes to support of combat assaults or extractions, and it requires a senior commander's decision to change this priority of air.

g. CBU Smoke. Prior to initial touchdown of the first aircraft in the combat assault, and ideally lasting for the duration of landing of troop-lift aircraft, USAF aircraft lay down a smoke screen larded with casualty-producing CBU munitions to screen the downwind flank of the landing zone from enemy fires and observation. A minimum of four sets of air is required to provide a reasonably effective smoke screen. Considerable care is taken to insure that the smoke does not drift over and obscure the landing zone itself.

h. Armed helicopters. The armed helicopter is an essential weapon in the operational environment of Lam Son 719. It provides a capability to locate and engage immediately targets of opportunity possessed by no other weapons system and it provides close fire support under weather conditions that preclude fixed-wing aircraft close support. The AH1G (Cobra) is quite effective. The UH1C is beyond its capability in this environment and tends to be more of a liability than advantage. Yet, we fly every gunship available including the UH1C because the gunship is so essential to all phases of the airmobile operation.

In the hostile air defense environment of Lam Son 719, it is necessary to provide gunship escort for virtually every aircraft or group of aircraft that fly missions over Laos. Thus, the number of gunships available for escort becomes a limiting factor in how many separate missions can be flown simultaneously.

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Armed helicopters effectively perform the helicopter escort role. Escort armed helicopters are normally employed on the rear flanks of the lift helicopter formation, in position to provide immediate en route suppressive fire. Prior clearance to fire along the flight route facilitates maximum effectiveness of escort armed helicopter fires. Escort armed helicopters immediately engage enemy targets they observe. Lift helicopters receiving enemy fire mark the targets with smoke, and the lift flight leader directs armed helicopters to engage the target.

One technique for employment of aerial rocket artillery in support of combat assaults is particularly effective. During the combat assault when the artillery and air strikes have shifted to adjacent targets and the troop-lift aircraft are landing the troops, aerial rocket artillery gunships orbit high over the landing zone. When a target appears, aerial rocket artillery gunships are directed from overhead orbit to engage immediately the target. They do so with promptness, accuracy, and capability for placing fires close to the friendly troops on the ground.

i. Flight routes. Flight routes are planned to avoid known enemy AA weapons and to pass over friendly positions when possible, thus providing safe havens for aircraft and crews that may be forced to land. Flight routes are varied and changed from day to day and mission to mission depending upon location of friendly units and enemy AA weapons.

j. Altitude selection. Whereas in most areas of RVN, aircraft flying 1500 feet above ground level are considered relatively safe from ground fire, heavy small arms and AA weapons fire over Laos have driven aircraft to fly at considerably higher altitudes. In Lam Son 719 altitudes between 4,000 and 6,000 feet above ground level are optimum for preventing losses to small arms and 12.7mm machine gun fire and for remaining below effective engagement altitude of larger caliber AA weapons.

k. Aircraft dispersion. One-ship and two-ship landing zones preclude use of mass formation flying. Flights of aircraft normally proceed to objective areas in widely dispersed trail formation, thereby reducing possibility of loss of more than one aircraft to a single enemy weapons engagement.

l. Approaches to and departures from landing zones. Steep, rapid descents to and ascents from landing zones while maintaining varying velocities in three directions reduce the accuracy and effectiveness of fire against aircraft from enemy weapons located near the landing zone and along approach and departure routes. Approaches and departures normally follow the same route in order to take maximum advantage of the pre-landing reconnaissance and preparatory firepower.

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m. Low-level, nap of the earth flight. Under certain circumstances combat assaults, resupply missions, and medical evacuation are better conducted by low-level, nap of the earth flight rather than by high altitude flight. Aircraft flying the nap of the earth present fleeting targets to enemy gunners and gain surprise by their sudden and unexpected appearance in the landing zone and quick departure. When this tactic is used, a guide aircraft must fly at a higher altitude above the low-flying aircraft to vector them to their objective. Nap of the earth flight is often appropriate and effective when aircraft fly into a firebase or friendly position surrounded by enemy who use "hugging" tactics and place accurate fire on the landing zone.

n. "Secure" landing and pick up zones. Secure landing and pick up zones do not exist in Lam Son 719. Friendly firebases and positions are so small and widely dispersed and enemy forces and weapons so numerous and pressed in so close to friendly forces and positions that every landing zone and pick up zone in Laos is always potentially and usually actually subject to enemy fire. Consequently, every mission including resupply and medical evacuation is planned and executed as a combat operation, complete with reconnaissance and fire support. Proximity of friendly forces inhibits use of defensive fires during missions into "secure" LZ's and PZ's. Commanders and aviators prefer going into new LZ's by combat assault supported by unrestricted firepower rather than into the so-called "secure" LZ's and PZ's where friendly troop locations inhibit employment of supporting and defensive fires.

o. Breaking off a combat assault. The most difficult decision one must make during an airmobile operation is to break off or interrupt a combat assault once it has begun. When the landing of troops has begun, the pressures are great to continue the combat assault until all troops are on the ground. But when enemy fire against troop-lift aircraft entering and departing the landing zone becomes so heavy and accurate and aircraft and human losses and damage so great that the success of the combat assault is jeopardized, then the commander must break off the combat assault and create conditions that permit resumption of the combat assault. There are several actions the commander can take to resume an interrupted combat assault. He can use additional firepower, change approach and departure routes and altitudes, aircraft touchdown points, or the landing zone itself. Troops already in the landing zone can assist by attacking and destroying enemy forces and weapons and by securing the original or an alternate landing zone. At such times, there is a premium on the imaginativeness, resourcefulness, determination, and professional competence of the ground, air mission, and air cavalry commanders, as well as on the courage and will of the aircraft crews and ground troops.

p. Senior commander aloft. A senior airmobile commander is aloft over the operational area during the crucial phases of airmobile operations, particularly during combat assaults and extractions. This senior commander is separate from

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and senior to the ground and air mission commanders. His presence expedites decision-making and coordination and facilitates acquiring additional resources needed to support the operation. The senior airmobile commander monitors appropriate radio nets, follows the action closely, provides guidance to the air mission commander, keeps higher headquarters informed, and calls for additional resources or support as needed. He is a decision-maker and expeditor. Most importantly, the senior airmobile commander aloft receives the recommendations of the air mission and ground commanders and personally makes the crucial "go" or "no-go" decisions for crucial combat assaults and extractions. This command arrangement is essential for a combined operation such as Lam Son 719. The principle may be equally valid for unilateral US Army airmobile operations.

10. PERSONAL VIEWS. Here are some of my personal views on airmobility and airmobile operations. These views are influenced by what I have experienced and observed during airmobile operations in support of Lam Son 719.

a. Airmobility. Airmobility is the key to the success achieved thus far by Lam Son 719. Airmobile operations have proved effective in the hostile air defense, mid-intensity conflict environment of Lam Son 719. I believe that airmobile operations will be effective on a European-type battlefield.

b. Helicopter survivability. The helicopter and its crew have proven remarkably hardy and survivable in the mid-intensity conflict and hostile air defense environment of Lam Son 719. We have lost remarkably few helicopters and crew members in view of the heavy small arms, antiaircraft, and mortar and artillery fires our aircraft and crews have experienced while conducting extensive airmobile operations on NVA home ground. This is even more remarkable in view of the numerous airmobile operations conducted in support of Vietnamese ground units located in small perimeters, surrounded by NVA units and weapons, and often in heavy contact with the enemy.

To assess and evaluate properly our aircraft and crew losses, one must measure these losses against the campaign plan, mission, total sorties, and number of exposures to enemy fire, and accomplishments. When viewed in this perspective, we have fared better than the most optimistic prophet would have dared predict.

One thing is certain. A helicopter protected against .30 caliber small arms fire from a distance of 300-400 feet will have an appreciably greater chance of survival under conditions of conflict experienced in Lam Son 719. So will its crew.

c. Ground units securing LZ's and PZ's. Friendly ground units can reduce danger and damage to supporting aircraft by pushing out from their perimeter and enlarging the ring of security around landing and pick up zones. Many aircraft

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are damaged or lost flying in and out of friendly field locations in which the perimeter is wrapped tightly around the landing zone and the enemy is, in turn, wrapped tightly around the friendly perimeter with his small arms, machine gun, and mortar fire covering the landing zone and its approaches.

d. Reconnaissance and firepower. Timely, thorough reconnaissance and responsive, massive firepower are twin keys to successful airmobile operations, particularly the combat assault and extraction. Air cavalry is the key to adequate reconnaissance. The combination of artillery, armed helicopters, and tactical air strikes is the key to adequate firepower.

e. Air cavalry. Air cavalry is one of the most versatile, most valuable assets on the battlefield today and has virtually unlimited, untapped potential for the future. I believe that every US Army division should have two air cavalry squadrons assigned. This would give the division commander the capability for employing one air cavalry squadron in the division reconnaissance zone and the air cavalry troops of a second squadron in direct support of the division's brigades. Whenever appropriate, the division commander could employ both of his air cavalry squadrons in mass or on separate independent missions. I would be willing to trade one or two infantry battalions for an additional air cavalry squadron. (We are employing four air cavalry troops in support of Lam Son 719 operations in Laos. We could use more.)

f. Tactical air. If tactical airpower is to make its full contribution to airmobile operations and to the battle, USAF must liberally provide Tactical Air Control Parties to air cavalry and selected Army aviation units as well as to participating ground units and keep continuously airborne over the operational area sufficient Forward Air Controllers to handle both planned and immediate air strikes in large number and without delay. The TACP's presence at all major tactical headquarters participating in airmobile operations is essential to insure that tactical airpower factors are fully included in the planning stages. It is only through the TACP and FAC that the full effect and potential of tactical airpower in support of airmobile operations can be realized. Also, USAF tactical aircraft must be capable of a longer on-station time over the battle area. USAF tactical aircraft frequently arrive over the battle area with a fifteen minute on-station endurance capability. This limitation provides little or no flexibility to the ground, air mission, or air cavalry commander who need air strikes in support of their operation.

g. Armed helicopters. We need more armed helicopters with improved capabilities. The armed helicopter provides a capability for responsive, continuous, accurate, close fire support offered by no other weapons system within the US inventory.

Airmobile operations in mid-intensity conflict require more armed helicopters than in low-intensity conflict. Increased numbers of enemy antiaircraft weapons and high effectiveness of enemy air defense systems combined with close combat

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of ground units require more armed helicopters for reconnaissance missions, for suppressive and destructive fires, and for helicopter escort. The number of armed helicopters available for support has sometimes been a limiting factor in the airmobile operations during Lam Son 719. We have on occasion been capable of flying more missions simultaneously than available armed helicopters could support.

We need now tank-defeating armed helicopters. Had we entered Lam Son 719 with a helicopter armed with an accurate, lethal, relatively long-range anti-tank weapon, we would have destroyed many more NVA tanks and would have rendered more effective close support to Vietnamese ground forces. As I consider our experience against NVA tanks in Lam Son 719 and ponder what would face us on a European-type battlefield, I am absolutely convinced that the US Army must field immediately an armed helicopter with an effective tank-killing capability. If the AH1G "Cobra" mounting the TOW gives us that required capability the soonest, fine. I hold no brief for any particular weapons system, but I do hold the firm conviction that we need now the armed helicopter tank-killer.

h. Armed helicopter-tactical air team. The armed helicopter and fixed-wing fighter-bomber form a natural, effective fighting team. Each weapons system has unique, complementary characteristics essential in support of the ground soldier and his operations.

Living and operating in the ground soldier's environment, the armed helicopter escorts troop-lift helicopters flying the soldier to and from his operations, escorts helicopters delivering ammunition, food, water, supplies, and mail to the soldier, and escorts the medical evacuation helicopter rescuing the wounded soldier from battle. The armed helicopter flies underneath ceilings measured in hundreds of feet to locate targets threatening or attacking the soldier to deliver timely, responsive, accurate fire within tens of feet of the soldier's position.

The fighter-bomber has a unique capability to place heavy firepower and a variety of ordnance in close support of the ground soldier. The fighter-bomber's most distinctive characteristic is its ability to deliver heavy bombs in support of the ground soldier. The fighter-bomber flies underneath ceilings measured in thousands of feet, to deliver heavy bombs within hundreds of feet of the ground soldier's position and lighter ordnance even closer.

The armed helicopter and fighter-bomber team works effectively in Lam Son 719. Armed helicopters of the air cavalry reconnoiter objective areas, landing and pick up zones, and their approach and departure routes; acquire and mark targets on which the forward air controller directs air strikes; conduct low-level bomb damage assessments; and work with the forward air controller in developing additional targets for air strikes. Armed helicopters and tactical air work

AVDG-AC

20 March 1971

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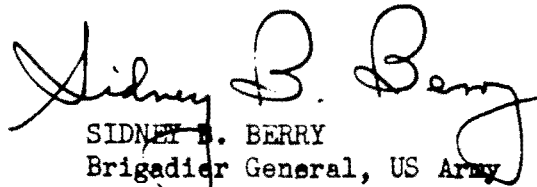
together to prepare the objective area, landing and pick up zones and approach and departure routes for safe passage and landing of the troop-lift helicopters. The armed helicopters then escort troop-lift and heavy-lift helicopters in and out of the landing zone while the forward air controller directs air strikes into adjacent target and danger areas.

i. Smoke capability. The helicopter should be provided a smoke munition similar to that employed by USAF fixed-wing aircraft, the CBU-smoke capability which simultaneously provides concealment and inflicts casualties. The smoke helicopter could be effectively employed in support of airmobile operations conducted in weather below USAF flight minimums or when USAF smoke aircraft are not responsive enough.

j. Instrument pilots. All aviators should be qualified as instrument pilots and proficient in instrument flight, and all helicopters should be equipped with the latest and best equipment for instrument flight. This would ensure a higher mission completion rate with a lower accident rate. As things now stand, our dedicated, determined, mission-oriented aviators fly missions before first light, after last light, and in marginal weather conditions at considerable risk to themselves, their crews, and their aircraft.

k. The combat soldier-aviator. A final point. I have come to regard the combat aviator with the same respect, admiration, and affection I feel for the combat infantryman.

Our combat aviators are dedicated, courageous, selfless, skillful soldiers who daily in Lam Son 719 accomplish the most demanding, difficult missions with superb style, effectiveness, and professionalism.



SIDNEY B. BERRY

Brigadier General, US Army

Assistant Division Commander (Operations)

ANNEX A INTELLIGENCE

1. (U) INTRODUCTION

This section contains a summary of weather conditions, terrain data, and the general enemy situation during Operation LAMSON 719. Information on the enemy situation is somewhat limited by the classification of this report; however, every effort has been made to insure all available information of the proper classification is included so as to present as accurate a picture as possible.

2. (U) Weather

a. General

During most of February and the first half of March the Siberia High normally present over the mainland of Vietnam, begins a slow retreat northward. The flow around the high is still sufficient however to maintain a strong northeast monsoon over Southeast Asia. As the cold dry air from the high pressure area moves southward, it is gradually heated by contact with the warmer China coast and waters of the South China Sea. This polar air merges over the water with moist tropical air from the western Pacific and arrives over Southeast Asia much warmer and more moist than when it left the continent. The northeast monsoon over northern South Vietnam is a wet monsoon with considerable low level cloudiness, light rain, and drizzle. The Annamite Mountain Range along the border of Laos and South Vietnam weakens the effects of the northeast monsoon in Laos; however, considerable low level cloudiness is present along the border regions of Laos and South Vietnam during the northeast monsoon. The amount of cloudiness in this border area on any given day depends primarily on the strength and depth of the northeast monsoon. The northeast monsoon is relatively cool and dry over much of the interior of Laos.

b. Northeast Monsoon

If a moderate northeasterly flow of 15 to 25 knots is present through the first eight to ten thousand feet above the ground, (Figure A-1) "spill over" into Laos will occur. This "spill over" will produce

ANNEX A

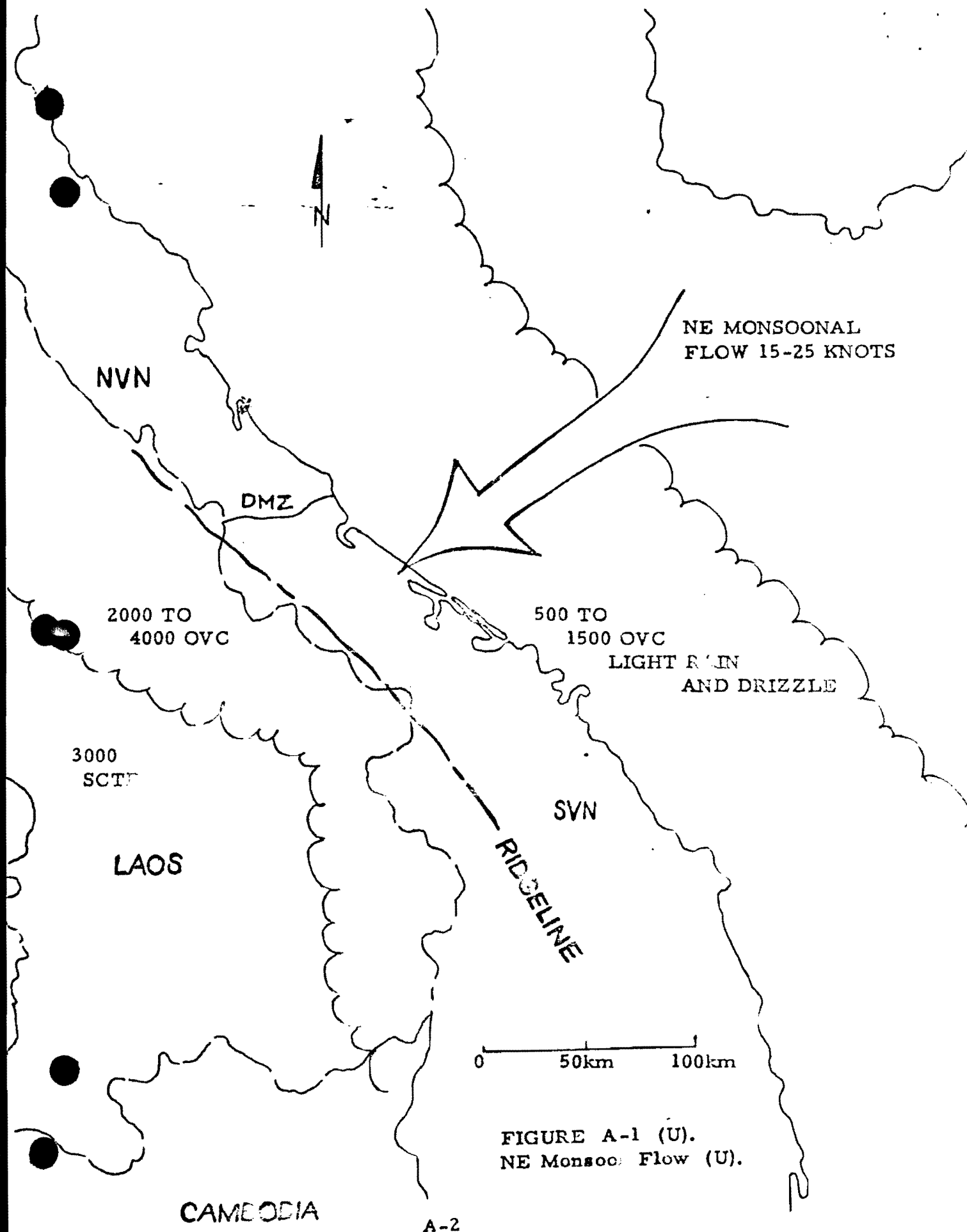


FIGURE A-1 (U).
NE Monsoon Flow (U).

ceilings from 2,000 to 4,000 feet above mean sea level extending 50 to 70 miles into eastern Laos, becoming mostly scattered in western Laos. This same flow pattern will cause ceilings to average between 500 and 1,500 feet with light rain and drizzle along the coastal areas of South Vietnam. All higher elevations will be obscured in clouds.

c. Transition (Figure A-2)

During the latter half of March, the northeast monsoon weakens causing an improvement in the weather over most of the Laos-South Vietnam border area. Considerable cloudiness will still occur over the Annamite Mountain Range, however, with ceilings averaging between 2,500 and 4,000 feet. The border areas of Eastern Laos will experience mostly scattered clouds during the afternoon. Low stratus and poor visibility in valley fog will dominate the weather during the early morning hours.

d. Southwest Monsoon

The initial stage of the Southwest monsoon, experienced in surges during late March, consists of a light southwesterly wind pattern (Figure A-3). During this flow configuration showers and thunderstorms develop over and along the Annamite Mountain Range, causing mostly cloudy weather. Scattered thundershowers with bases of 3,000-4,000 feet will develop over the area by mid afternoon. The plains of Vietnam by late afternoon provided the upper level wind flow is greater than 15 knots from the southwest.

e. Aviation Weather

1. Aviation support was affected by weather in three separate regions. The majority of aircraft were based in the Vietnamese coastal plains, crossed the Annamite chain, staged at Khe Sanh and then operated in eastern Laos. Under most conditions, the weather was marginal in one of the three areas during most of the period. Ceilings of 1,000 feet above ground level (AGL) were used as a minimum standard for effective operation of Army aircraft, whereas ceilings of 3,000 feet AGL were used for employment of normal USAF TAC air support. Data in Figure A-4 is derived from USAF observation stations in the Coastal Plains. No weather stations were established

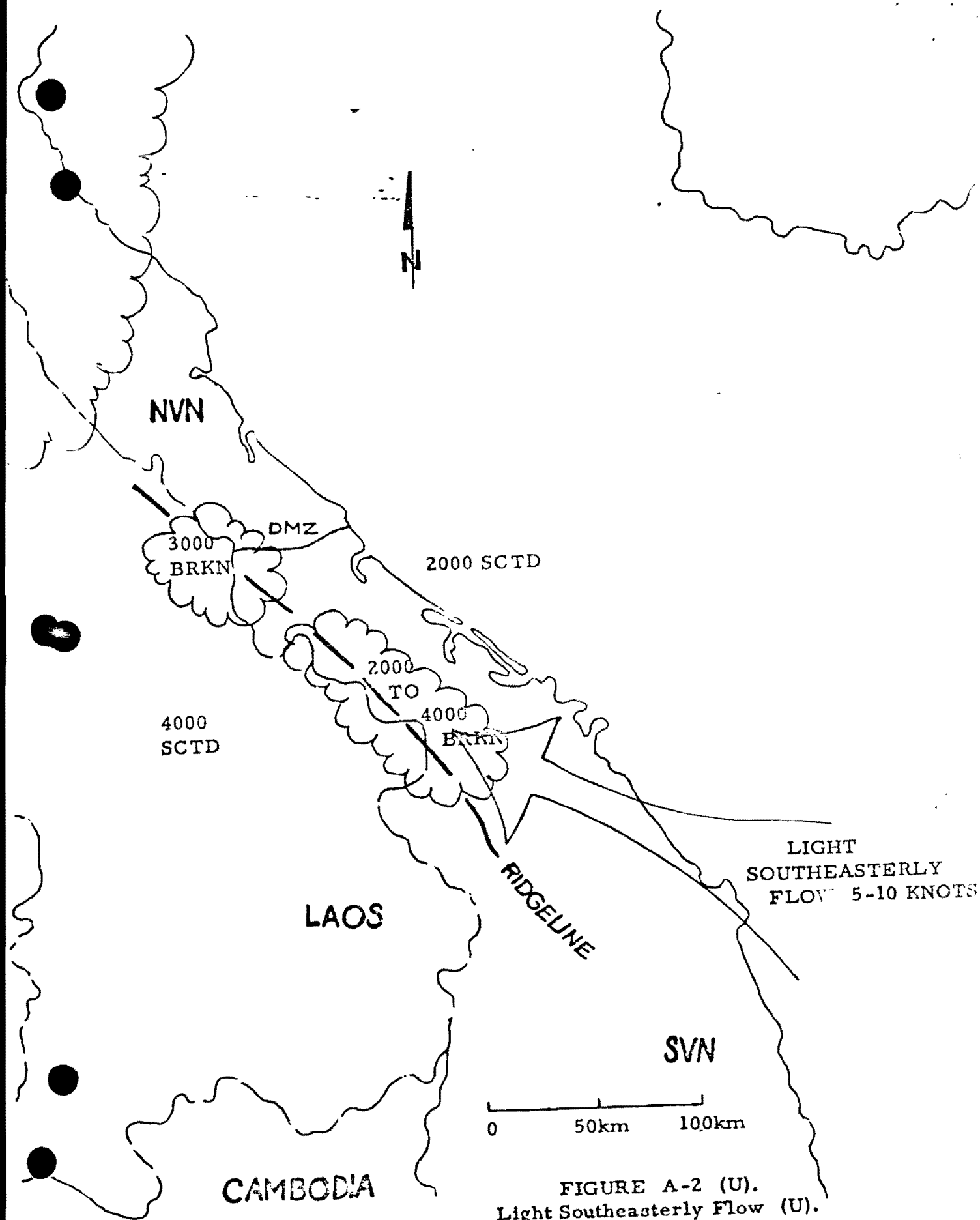


FIGURE A-2 (U).
Light Southeasterly Flow (U).

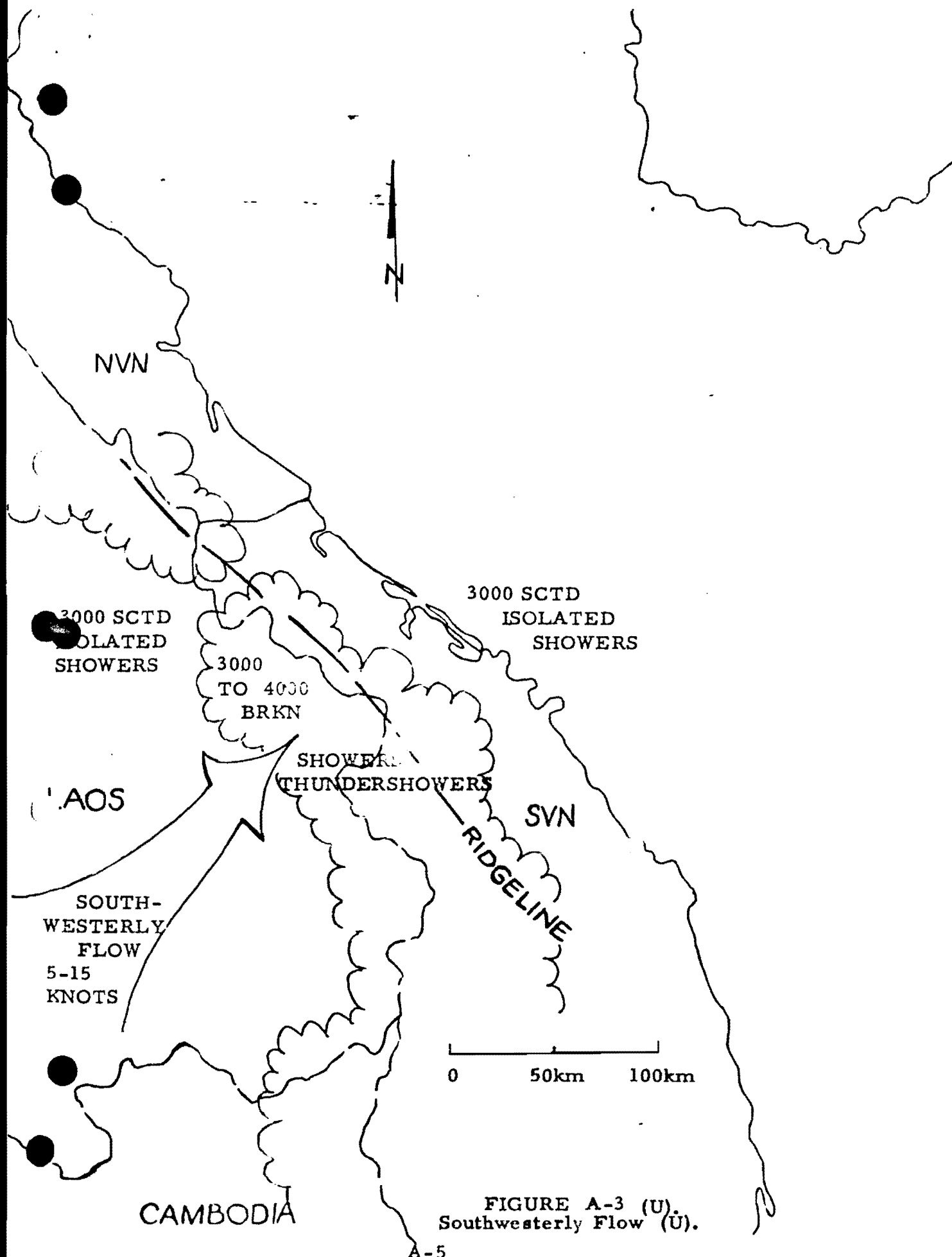
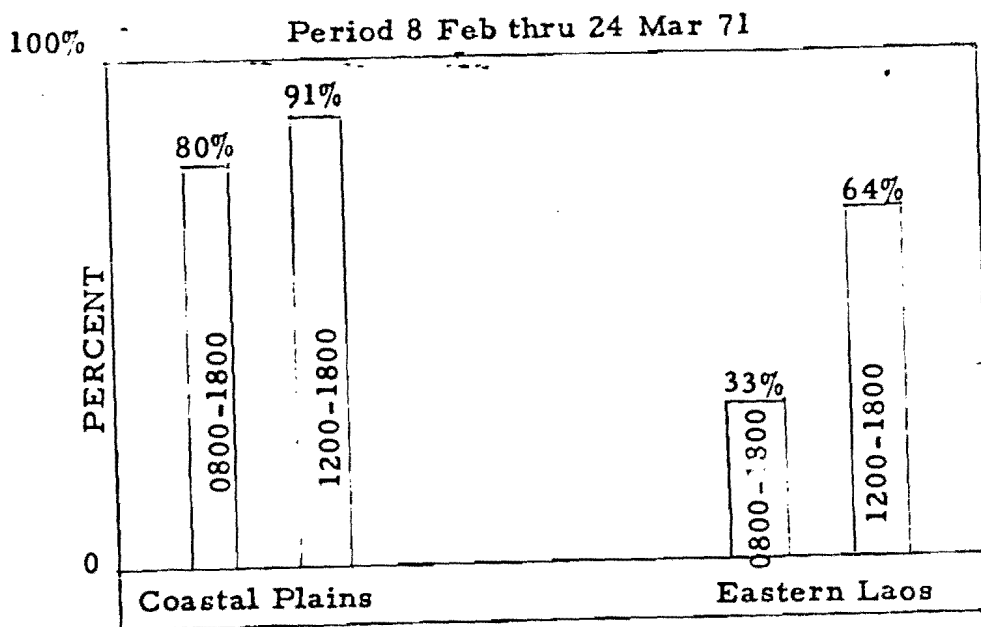
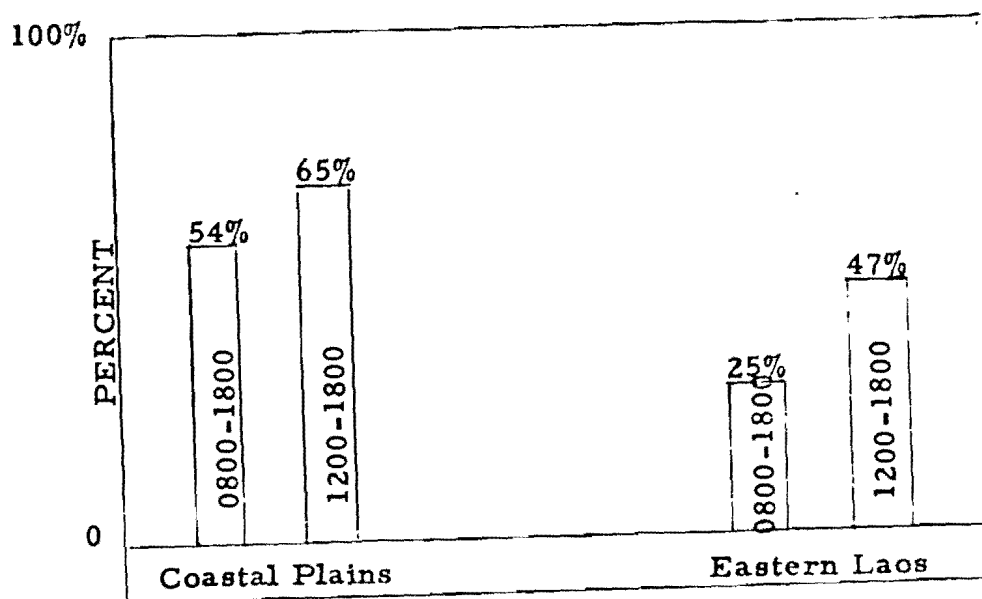


FIGURE A-3 (U)
Southwesterly Flow (U).



Ceilings of 1000 feet (AGL) or better



Ceilings of 1000 feet (AGL) or better

FIGURE A-4 (U). Aviation Weather Minimums (U).
A-6

in Laos, and percentages were obtained for eastern Laos from extrapolation of weather data reported from Khe Sanh. In general, a ceiling above 2,500 feet along the coastal lowlands resulted in ceilings above 1,000 feet in the operational area.

2. Ceilings in the eastern Laos operational area were above 3,000 feet AGL from 0800H daily for approximately 25 per cent of the days being considered. Ceilings along the coastal area of MR-1 above 3,000 feet AGL from 0800 to 1800 daily averaged 54 per cent of the period. The same requirement was met for approximately 47 per cent of the period from 1200 to 1800H daily over the Laos operational area and 69 per cent over coastal areas of Military Region 1. A ceiling above 1,000 feet AGL was reported in the Laos operational area from 0800H to 1800H daily for approximately 33 per cent of the period of operation, while the same requirement was met in approximately 64 per cent of operational period from 1200H to 1800H. Ceilings were above 1,000 feet from 0800H to 1800H daily over the coastal plains of Military Region 1 approximately 80 per cent of the period of operation. The same requirement was met for approximately 91 per cent of the operational period from 1200 to 1800H daily over the coastal plains. In general a ceiling of 2,500 feet or better along the coastal areas of Military Region 1 during light to moderate northeasterly flow will result in ceilings above 1,000 feet over the operational area in Laos.

3. (U) DESCRIPTION OF THE OPERATIONAL AREA

a. Geography

Operation LAMSON 719 was conducted in Tchepone District of Savannakhet Province, in southeastern Laos (Figure A-5). The area is bounded on the east by Quang Tri Province, SVN, with the Demilitarized Zone and Quang Binh Province, NVN, to the immediate northeast. The area is largely uninhabited, with the exception of Laos tribesmen and refugees from the Khe Sanh area of SVN. All major villages and towns in the area have either been destroyed or abandoned. The operational area is traversed from southeast to northwest by the Xe Pon River, and from northeast to southwest by the Xe Bang Hiang River. These rivers join in the vicinity of the abandoned district capital of Tchepone. The Xe Namko River enters the operational area from the west and also joins the Xe Bang Hiang at Tchepone.

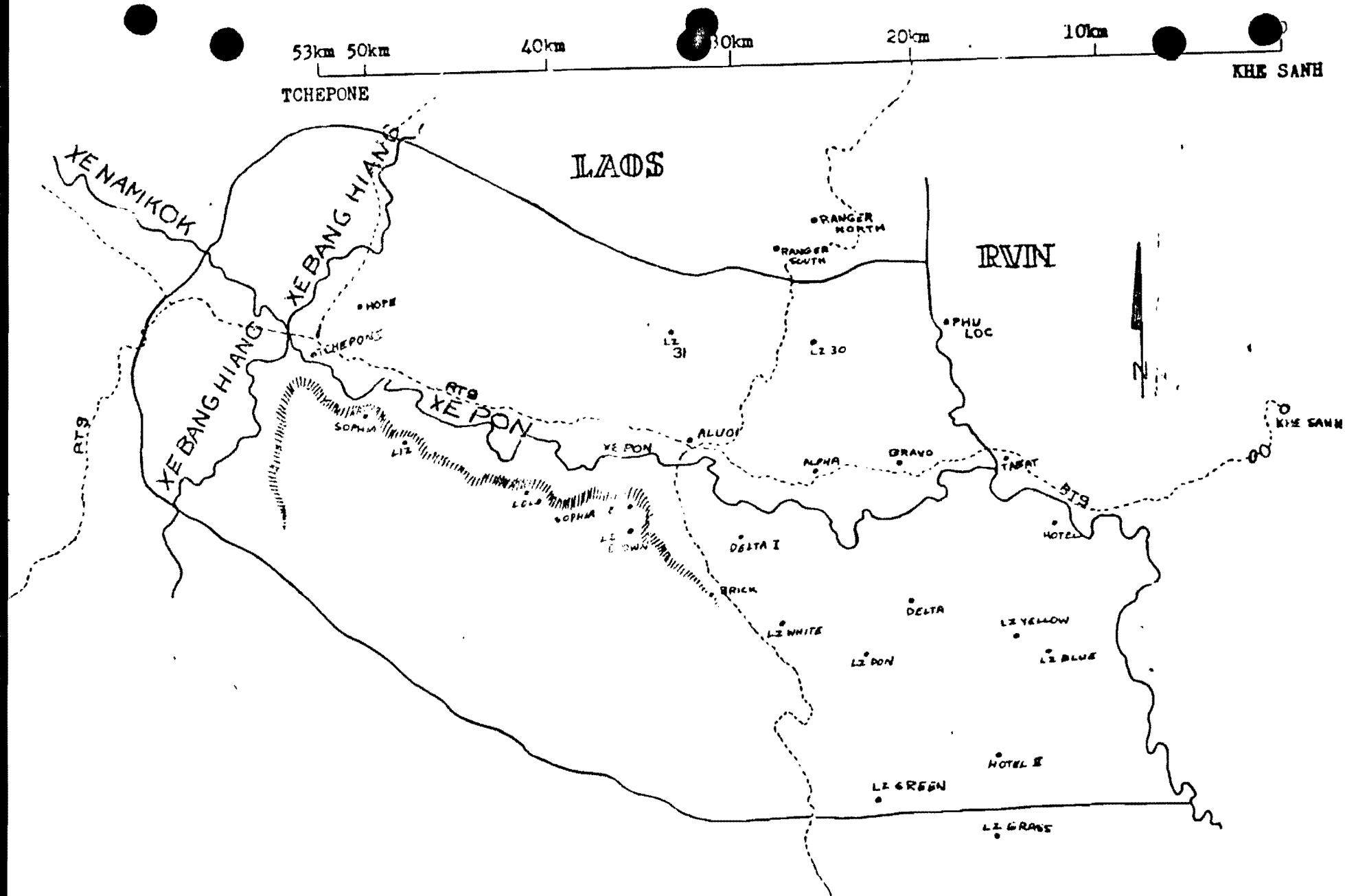


FIGURE A-5 (U). Geography LAMSON 719 (U).

b. Landforms (Figure A-6).

The area may be generally described as the western slopes and foothills of a portion of the Annamite Mountain Chain. The predominant land feature is the escarpment, or bluff (elevation 600-700 meters) running south of, and generally parallel to the Xe Pon River.

(1) Mountains

Elevations of the mountains in the area generally decrease from east to west. The highest elevation in the LAMSON 719 area is 1104 meters, located in the northeast sector along the Laos-South Vietnam border. To the west, hills north and south of Tchepone have an elevation of approximately 300 meters. The escarpment rises sharply 400-500 meters above the Xe Pon River valley.

(2) Plains

Vegetation in the lowlands is composed primarily of brushwood and single canopy light undergrowth forest. The brushwood areas consist of grass, bushes, secondary scrubs, and elephant grass. They are discontinuous and vary in density from extremely heavy to moderately open. The single canopy forest averages 20 meters in height with scattered individual trees with heights to 30 meters.

c. Lines of Communication

(1) General

The roads and trails that extend through the LAMSON 719 area of operations form a major access route for the enemy's logistic system into the Republic of Vietnam (RVN). These routes are a part of an intricate network over which the North Vietnamese (NVA) can move supplies during most of the year either by trucking and/or portering. Following the halt of US bombings of North Vietnam in November 1968, the North Vietnamese began an extensive road building program. At that time enemy supplies and infiltrating personnel were exiting North Vietnam primarily through the Ban Karai and Mu Gia Passes, on the Laos/NVN border north of LAMSON 719 area. As

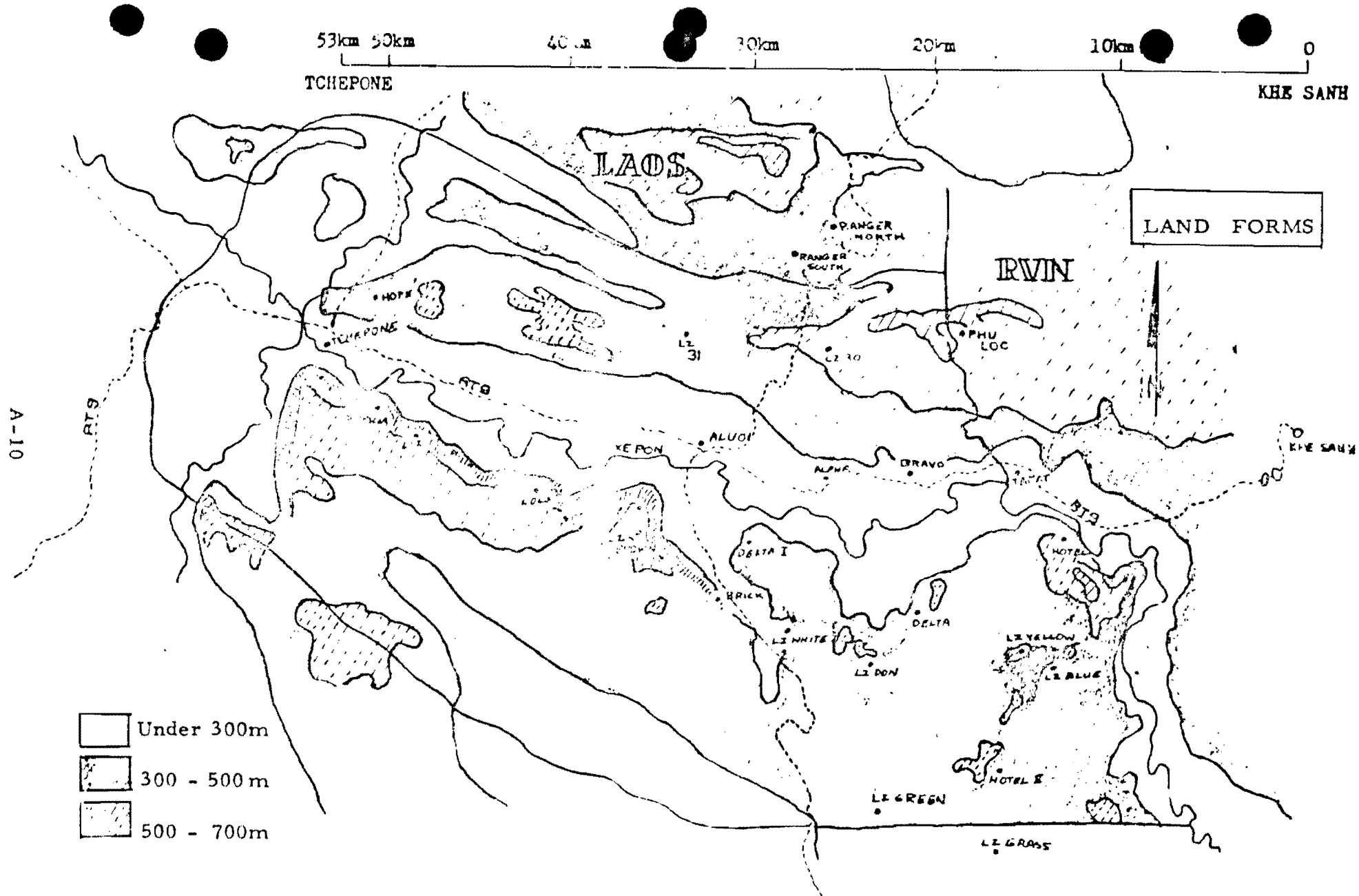


FIGURE A-6 (U). Landforms (U).

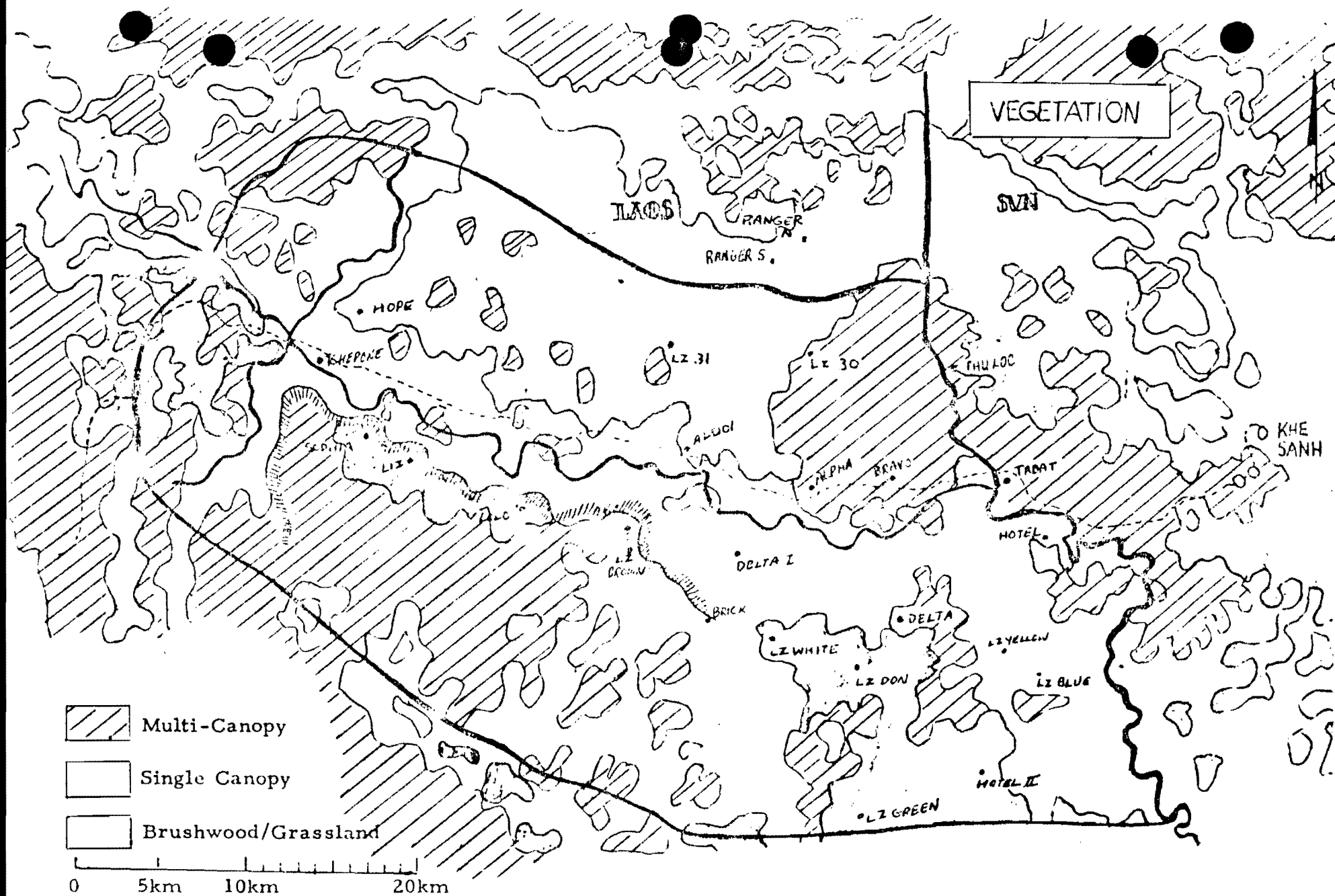


FIGURE A-7 (U). Vegetation LAMSON 719 (U).

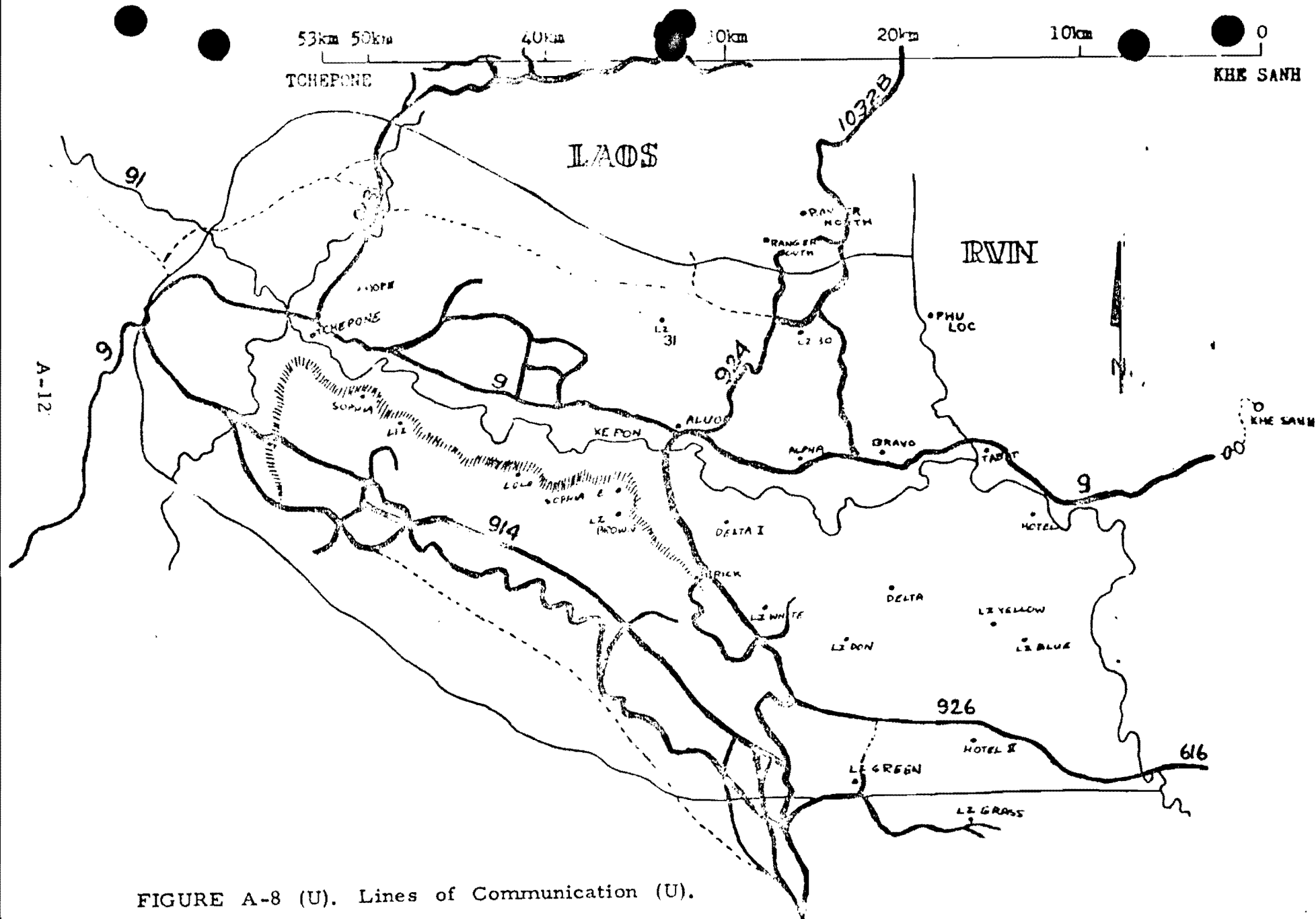


FIGURE A-8 (U). Lines of Communication (U).

a result of the bombing halt, the enemy began improving and extending those roads leading south out of Dong Hoi. These routes were more direct than those to the west and afforded the best potential for wheeled vehicle access to both Laos and South Vietnam. By 1970 the NVA had completed a route through the Ban Raving Pass (immediately north of the DMZ) and connected it with routes running into the Tchepone area of Laos. Following this the NVA completed routes that would sustain vehicular traffic, passing through the western DMZ, south into Laos west of northern Military Region 1, and into the LAMSON 719 area of operations.

(2) Major Routes

(a) 1032B

Enters the LAMSON 719 area of operations in the north-east corner and extends southward from the DMZ to its junction in the Ban Dong area (objective ALUOI) with Routes 92C/9G. This route is a major segment in the enemy's main north-south supply route. Route 1032B is a nearly two-lane wide, well-engineered road that was completed for use by heavy cargo vehicles, but is capable of sustaining light truck traffic. Heavy Air Force interdiction efforts have resulted in several by-passes being built near fords and other choke points.

(b) Route 92C

Laos Route 92C is completely in the LAMSON 719 area of operations. It is in the southeastern portion of the area and extends in a southeast direction from its junction with Routes 1032B/92C enemy supply route through the LAMSON 719 area into enemy Base Area 611. Route 92C varies from 2.5 to 3 meters in width. The drainage along the roadbed is natural. Road core roying is fairly extensive and enhances the allweather capability of the road. During the Southwest Monsoon season flooding may occur; however, natural drainage is generally sufficient to prevent a major problem. The road is used extensively, and the enemy attempts to keep the road open throughout the year.

(c) Route 9H/9G

Laos Route 9H/9G traverses the LAMSON 719 area in a generally west to east direction from Tchepone to the Vietnam border, where it becomes Route QL-9. Dense undergrowth and thirteen destroyed bridges along this former international highway hinder any fast crosscountry movement. Major construction would be required before this is two lanes wide and is capable of sustaining a heavy volume of vehicular traffic.

(d) Route 926/616

Route 926 extends eastward from a junction with Route 92C in the southwestern portion of the operational area. It enters southwestern Quang Tri Province, RVN, as Route 616. Route 616 eventually intersects Route 548 in the A Chau Valley. Route 926 received extensive road repair work during the early dry season and its condition approaches the status of an all weather road. This road is two lanes wide and will sustain a heavy volume of vehicular traffic. Route 616, the incountry extension of Route 926, received extensive road repair work during November and December 1970. Route 616 is two lanes wide up to the vicinity of FB SPARK, but is interdicted in several areas due to Air Force air strikes. The trafficability of the route is also severely hampered during periods of poor weather.

(e) Route 913

Route 913 enters the LAMSON 719 area of operations to the northeast and forms the second major segment in the NVA's north south supply route. To the north, Route 913 connects with Route 92A and 1039 running through the Ban Raving Pass. The Route is a well-engineered, two-lane, continually maintained road. The road surface approaches the classification of an all weather road; however, near fords and low areas traffic is limited during the wet monsoon period.

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4. (C) ENEMY ACTIVITY

a. Strengths, Disposition, and Movement

(1) Prior to Operation LAMSON 719 (Figure A-9)

Enemy forces in and near the operational area prior to the initiation of Operation LAMSON 719 on 8 Feb 71 were estimated to number 22,000. Of this total, 13,000 were in combat units, and 9,000 were supporting and maintaining the extensive infiltration network.

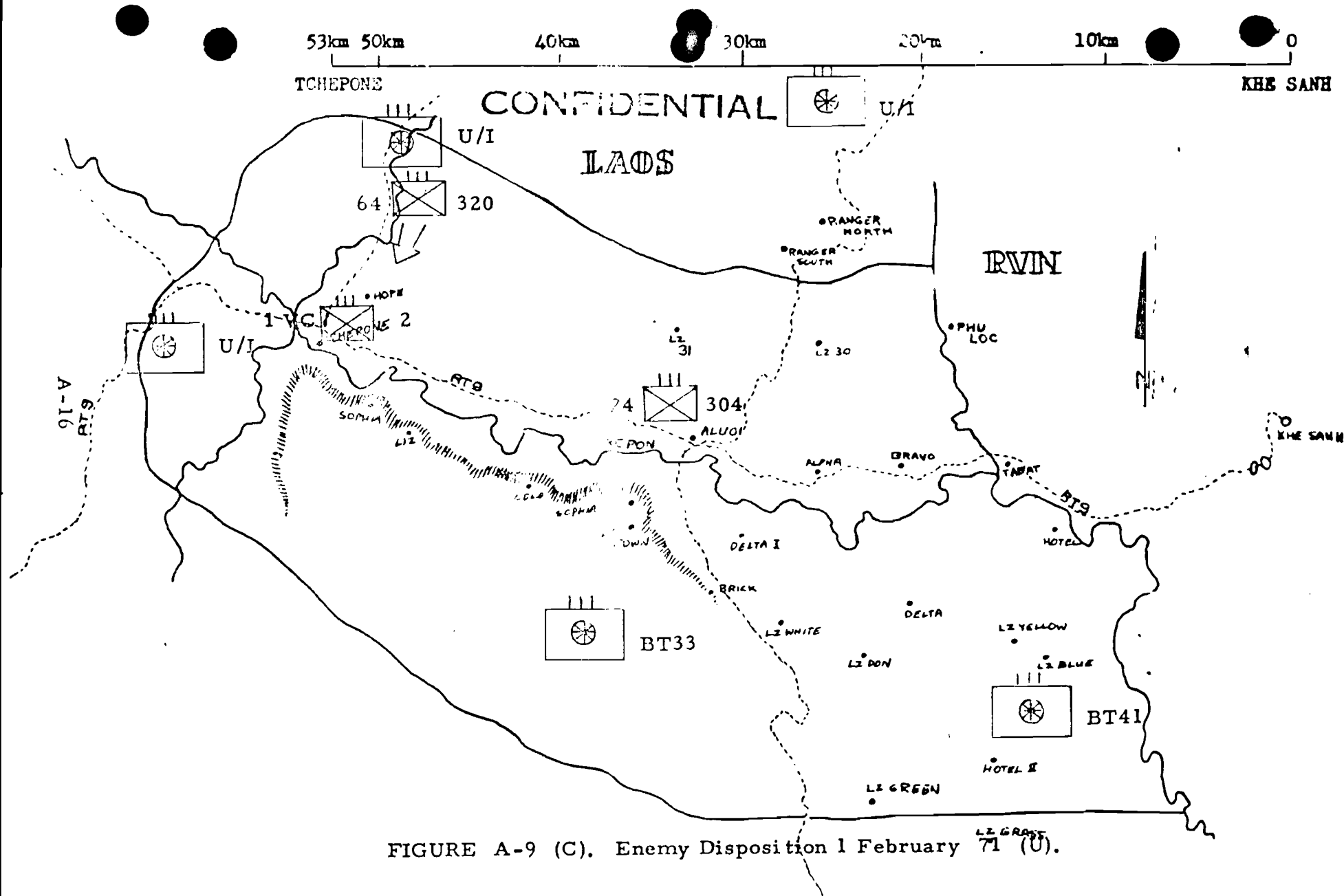
(a) Combat

Units in the area consist of elements of the 24B Regt/304th Div, the division headquarters and 1st VC Regt/2d Div, and the 64th Regt/320th Div. The 24B Regt had remained in the area north-east of Ban Dong when the remainder of the 304th Div (9th and 66th Regt's and the Div HQ) were deployed to NVN after the summer of 1970. The 24B Regt had the mission of guarding the Route 9 approach into the Tchepone area. The HQ 2d Div and the 1st VC Regt/2d Div were in the Tchepone area, refitting after operations in southern MR-1 in the summer of 1970. The 64th Regt/320th Div was north of Base Area (BA) 604, infiltration south along Route 9.

(b) Logistic

The enemy forces supporting the logistic network were subordinate elements of the 559th Transportation Group, called Binh Tram (military stations). These elements were responsible for the movement of infiltrating personnel and supplies through their assigned areas of responsibility. In order to accomplish this mission, each Binh Tram had a mix of attached transportation, engineer, medical, communication, liaison, and antiaircraft battalions. Each Binh Tram had infantry forces up to battalion size for internal security, although all attached units had a secondary mission of fighting as infantry as required. Binh Trams in the operational area consisted of probably two unidentified Binh Trams north of the immediate operational area; one unidentified Binh Tram in the Tchepone area; Binh Tram 33 which had the mission of moving supplies from south of Ban Dong (objective ALUOI) toward southern MR-1 and BA 611; Binh Tram 41, which

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received supplies from Binh Tram 33 and moved them east along Rte 926/616; and Binh Tram 34, which received supplies from Binh Tram 33 and moved them south toward southern MR-1.

(c) Air Defense (Figure A-10)

Antiaircraft units were normally subordinate to the Binh Trams with a mission of protecting the infiltration network from allied surveillance and interdiction. Each Binh Tram controlled possibly as many as three AA bn's of varying caliber, from 12.7mm through 100mm. The medium caliber (23mm through 100mm) coverage of the LAMSON 719 area posed a formidable threat to allied air support. It was estimated that there were as many as 19 battalions of 150-200 medium caliber weapons deployed along the route structure. No estimate was made of small caliber weapons (12.7mm and 14.5mm). Subsequent experience proved that these type weapons supplemented and protected the larger caliber weapons.

(2) During Operation LAMSON 719 (Figure A-11)

(a) In late January, a new corps level headquarters infiltrated from north of the DMZ to an area north of ARVN Ranger F's along Route 1032B. This headquarters, designated the 70B Front, was eventually to control elements of five divisions committed against allied operations in LAMSON 719. On 6 Feb 71, the 1st VC Regt/2d Div was moved east from the Tchepone area to an area northwest of Ban Dong, probably as a blocking force to attempt to control the ARVN ground attack. To the south, the 812th Regt/324B Div was redeployed from the Laotian salient to the vicinity of the hill mass known as the Co Roc, southwest of Khe Sanh. The regiment arrived in early February, probably with the original mission of harassing allied units along Route 9 and acting as a blocking force to limit any allied incursion to the south into BA 611. ARVN elements crossed the SVN-Laotian border in the vicinity of Route 9 on 8 Feb 71 and launched a ground penetration to the vicinity of Ban Dong (objective ALUOI) supported by airmobile assault to the north and south. ARVN elements met little or no resistance during its initial penetration. Enemy reaction however, was immediate. On 11 Feb, the 88th Regt was the first element of the 308th NVA Div to be infiltrated through the DMZ from NVN (Figure A-12). Also on 11 Feb, the 64th Regt/320th Div, later

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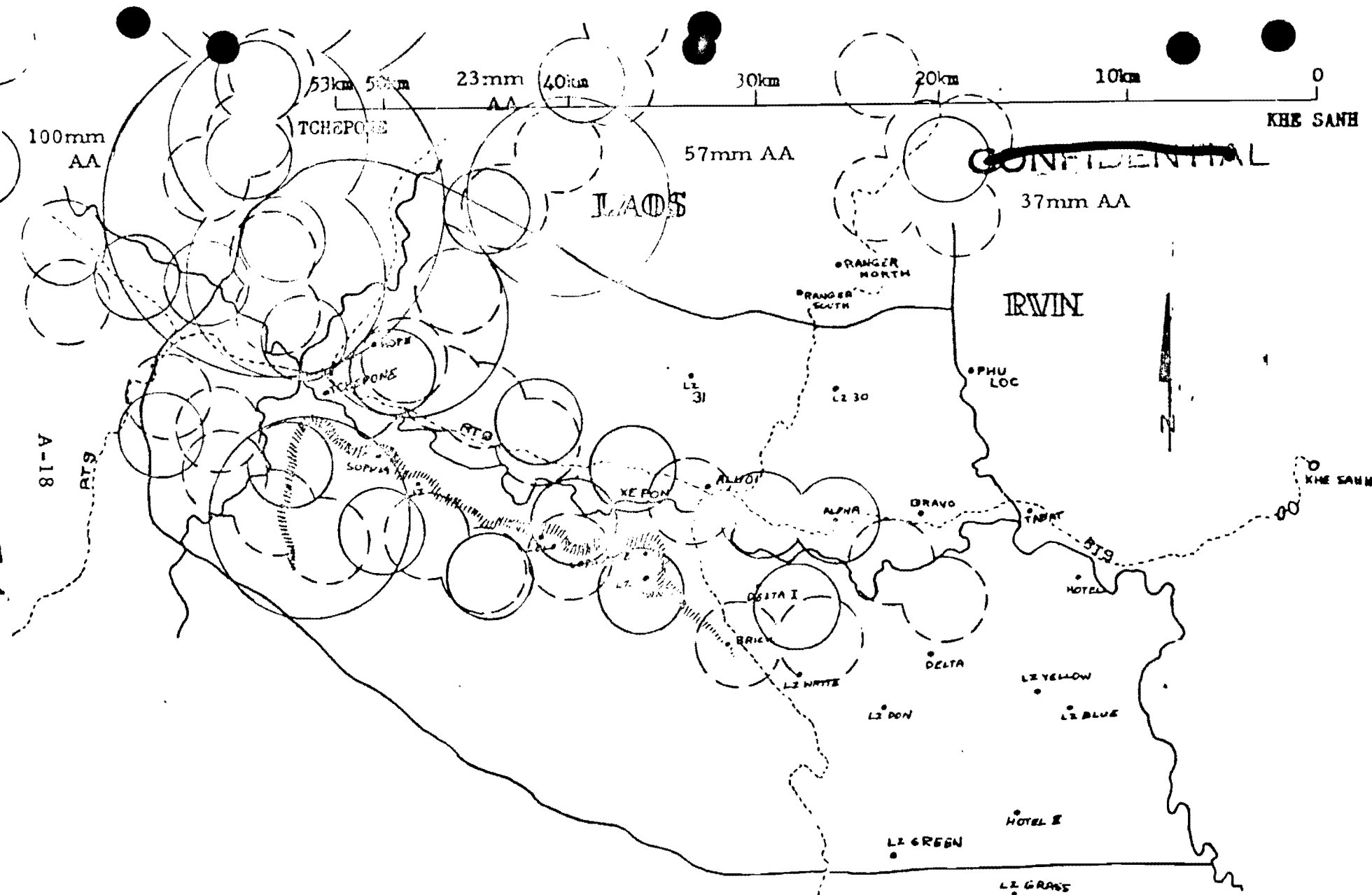


FIGURE A-10 (C). Antiaircraft Defense Deployment (U).

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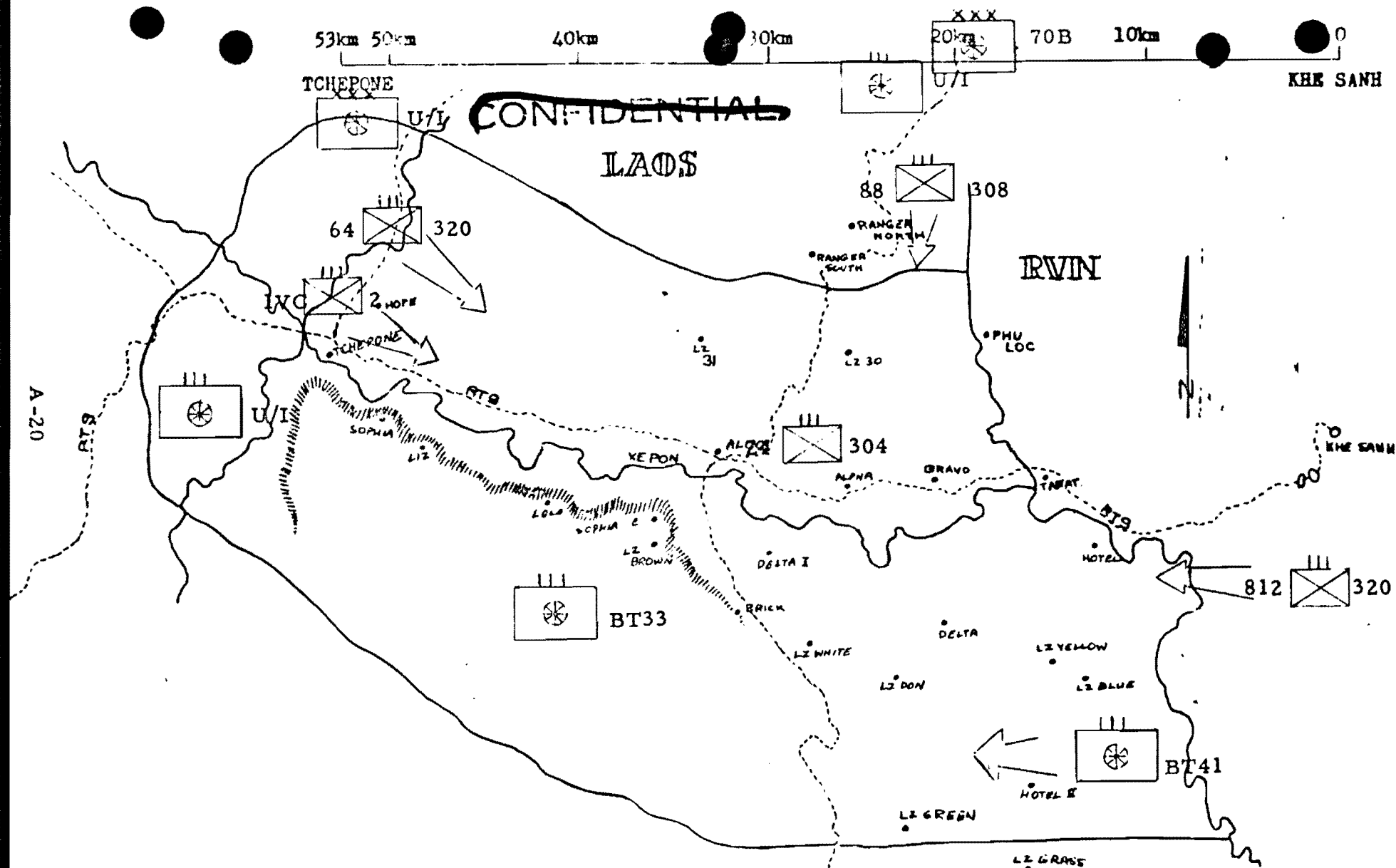


FIGURE A-12 (C). Enemy Disposition Mid-February 71 (U).

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determined to be originally destined for Cambodia or eastern Laos, received a change of orders and was diverted to the LAMSON 719 area. Following the 88th Regt/308th Div, the remainder of the Div (36th Regt, 102d Regt, and 308th Div HQ) infiltrated south from the DMZ along Route 1032B in mid-February. The Division HQ was located in the western end of the DMZ at this time. To the south, the 29th Regt/324B Div became the second major element of that Div to be committed, and was located in the FB DELTA area. Suspected locations of enemy elements were confirmed beginning on 18 Feb 71 (Figure A-13). The 102d Regt/308th Div was identified as the major force which attacked the 39th ARVN Ranger Battalion in the RANGER NORTH/RANGER SOUTH area. On 24 Feb 71, elements of the 24B Regt/304th Div and the 36th Regt/308th Div, supported by tanks, attacked FB 31. This battle confirmed the infiltration of an unidentified tank regiment to the north of FB 31, probably in mid-February. On 27 February, elements of the 308th Div, employing tanks as fire support, attacked FB 30. In the south, the 324B Div became fully committed to a mission of blocking ARVN incursion into BA 611. The 803d Regt arrived in the southern sector of the area of operations in the vicinity of Route 92d. The Division HQ of 424B Div was located south of the area of operations along Route 922. During the peak of enemy activity in the LAMSON 719 area of operations (early March) it is estimated that the enemy committed approximately 36,000 troops to the area. Binh Tram personnel were committed in a combat role, in addition to the commitment of all available combat arms units (Figure A-14).

b. In early March, ARVN elements, with heavy support from allied air, began a series of airmobile assaults along the escarpment west from Ban Dong reaching the Tchepone area on 6 March. Activity immediately increased in the Tchepone area. During the extraction to the east from the Tchepone area, heavy pressure was brought to bear on ARVN fire bases on the escarpment. These attacks can probably be attributed to elements of the 2d Div, Binh Tram 33, and the 141st Regt. As ARVN elements withdrew to the vicinity of Ban Dong, 2d NVA Div elements followed in close proximity and continued their pressure (Figure A-15). In the east, elements from the 324B and 308th Divisions brought heavy pressure to bear on ARVN forces along Route 9. Heavy attacks by fire were experienced by ARVN fire bases throughout the area of operations. The enemy employed extremely heavy antiaircraft fire along routes to or from ARVN fire bases.

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<u>UNIT</u>	<u>STRENGTH</u>
70B Front HQ & Support Bns	1500
308th Div HQ & Support Bns	2900
36th Regt	2100
88th Regt	2100
102d Regt	2100
24B Regt/304th Div	1800
64th Regt/320th Div	2000
324B Div HQ & Support	350
803d Regt	1500
29th Regt	1750
812th Regt	1900
2d NVA Div	5000
Pathet Lao	5000
BT 32	2000
BT 33	2000
BT 41	<u>2000</u>
	36,000

FIGURE A-14 (C). Enemy Units Committed Against LAMSON 719, Early March 1971 (U).

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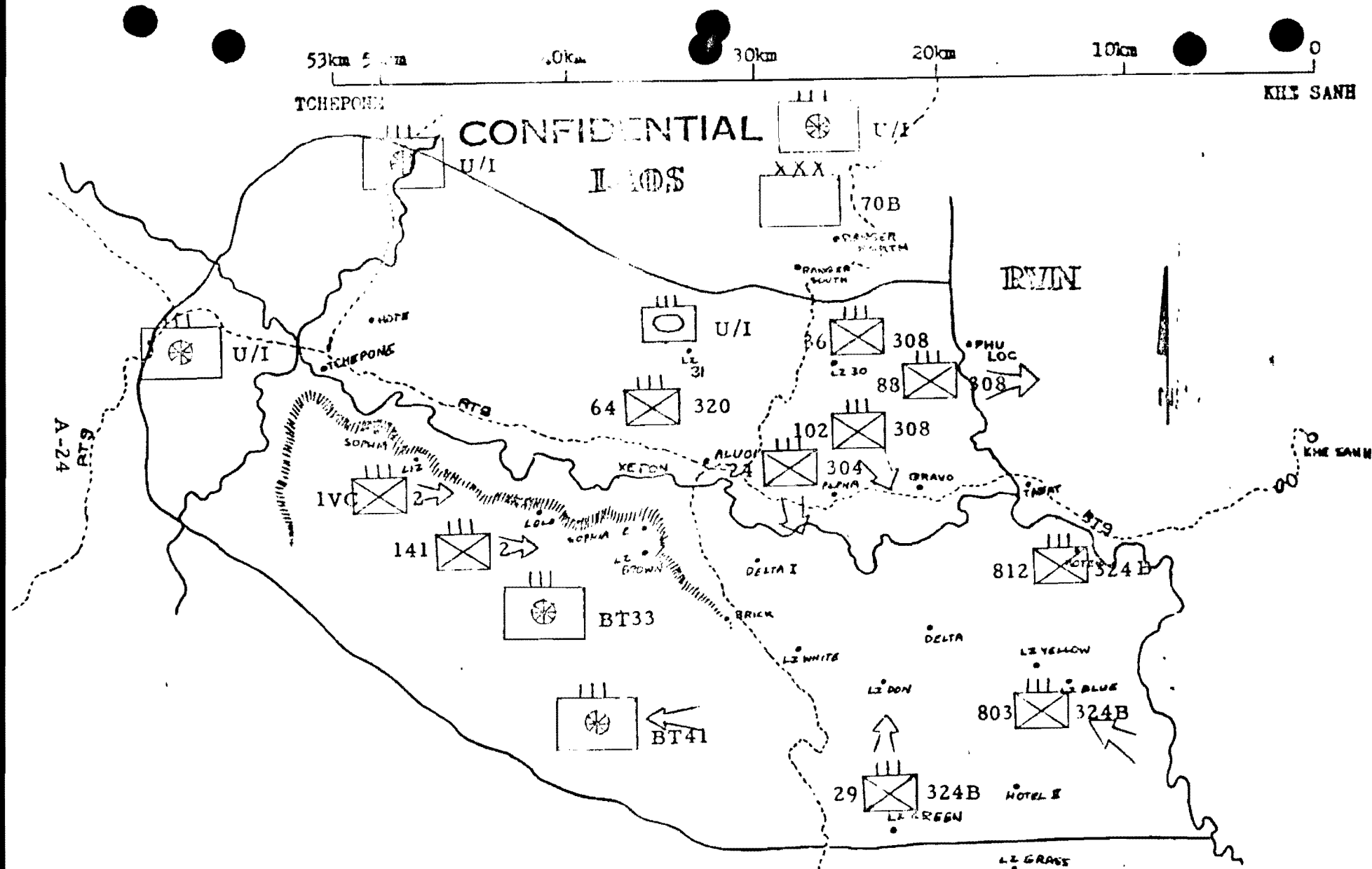


FIGURE A-15 (C). Enemy Disposition, Early March 71 (U).

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Mining incidents, attacks by fire, and ground attacks all were directed at ARVN elements along Route 9. During mid-March, the primary US forward support area at Khe Sanh received heavy attacks by fire and a sapper attack. In short, the enemy attempted during the withdrawal to maintain pressure from the west, while hoping to interdict Route 9 between Ban Dong and the Laotian/SVN border. Intense antiaircraft fire was employed in the east in an attempt to render US air support ineffective, and the same motive was behind the heavy attacks by fire at Khe Sanh.

c. Following the ARVN withdrawal, the NVA forces reorganized and assumed a defensive posture protecting the major route structure (Figure A-16).

d. Tactics

Once the enemy was able to react to the initial assault of LAMSON 719, he displayed tactics previously observed elsewhere in Vietnam. However, there were several tactics employed by the enemy during Operation LAMSON 719 which adversely affected allied operations and warrant further discussion.

(1) Ground Forces

The enemy had available a considerably greater fire support capability than previously experienced. He used his artillery to inflict casualties, harass ARVN firebases, and to effectively isolate (in some cases) ARVN firebases from aerial resupply. Knowing that there are certain restrictions regarding the proximity to friendly troops upon employment of B-52's, enemy forces in contact stayed as close as possible to ARVN forces on the ground. This tactic, known for the sake of convenience as "hugging" was seen often during close contacts. The enemy attempted to prevent the employment of B-52's by creating an unacceptable casualty risk to ARVN forces.

(2) Antiaircraft Artillery (Figure A-17)

(a) Instructions given to NVA elements in Laos concerning the employment of antiaircraft weapons against combat assaults by allied forces on helicopter landing zones (LZ) were as follows:

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<u>CALIBER</u>	<u>RATE OF FIRE</u>	<u>FIRE CONTROL</u>	<u>MAX EFF AA RNG</u>	<u>WEIGHT</u>
12.7mm	80 rpm	Metal sights	1000m	85 lbs
14.5mm	150 rpm	Optical	1400m	650-4600 lbs (Dep on mount)
23mm	200 rpm	Optical Mechanical Computing	2000m	2100 lbs
37mm	80 rpm	Computing sight	1373m	4620 lbs
57mm	70 rpm	Computing sight Radar	400m/6000m	7000 lbs
100mm	15 rpm	Radar	11890m	21,000 lbs

Figure A-17 (U). Characteristics of NVA Antiaircraft Weapons Systems (U)

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1 Make a thorough reconnaissance of areas struck by B-52's and where photo reconnaissance or US aerial surveillance has indicated an interest.

2 Deploy 12.7mm weapons, usually two or three, in the vicinity of a highpoint approximately 1000 meters from a landing zone, engaging helicopters as they land.

3 Reinforce the area around LZ's with 12.7mm weapons, mortars, and artillery during the night after an air assault has been made.

4 Cover air zones extending five to ten kilometers from an LZ with antiaircraft artillery.

(b) Deployment tactics of antiaircraft artillery

1 The 12.7mm weapons were often employed in a triangular or rectangular formation.

2 The 23mm guns were employed in circular, triangular, or rectangular formations. A single gun was, on occasions, utilized to protect storage sites or vital road networks.

3 "Hugging" tactics (ref from IV, B, 1 above) were also employed by antiaircraft units, especially during a heavy contact when confusion and gaps might occur in allied units. Whenever possible, 12.7mm HMG's were employed in the midst of friendly units or very close to friendly lines to engage US helicopter gunships and tactical air supporting the RVNAF in contact. This tactic again exposes allied forces to an unacceptable risk of casualties from gunships or tactical air if the antiaircraft weapon is engaged by either or these means. The enemy made maximum use of this tactic during LAMSON 719.

(c) Redeployment

1 General

Enemy tactical doctrine holds that antiaircraft artillery

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weapons will be moved to a new site (predetermined if possible) once their positions have been compromised, either by extensive contact or by friendly surveillance. Captured documents indicate that regardless of compromise of position, AA weapons are redeployed to new sites every six to seven days.

2 Redeployment during LAMSON 719

The extensive enemy threat during the operations was compounded by the fact that AA weapons were continually redeployed. The majority of AA weapons in the operational area were relocated on a daily basis, this making it impossible for allied air support means to maintain accurate deployment data. Redeployment was accomplished while maintaining the same level of coverage, i. e., one position would cover another while redeployment was taking place, redeployment was also accomplished at night.

3 Mobility

Mobility of enemy AA weapons varies from the 85 pound 12.7mm HMG to the medium caliber weapons (23, 37, 57, and 100mm), which weigh from 2,000 to 21,000 pounds. The 12.7mm may be easily moved to new positions by three men. The larger weapon, being mounted on a wheeled carriage, would require a motorized prime mover or a large number of personnel to man-handle them. Roads which would sustain vehicular traffic are necessary for redeployment of the medium caliber weapons. Agent reports from the LAMSON 719 area have described "tanks" with twin-barrelled guns. A quad-barrelled configuration of the 23mm AA automatic weapon is mounted on a light-track chassis which employs many of the components of the PT-76 tank. It is possible that an unknown number of these weapons were employed in the operational area. This weapon would be extremely mobile, and could be resited in a very short period of time, thus maintaining coverage without requirement for a semi-permanent site.

(3) Armor

(a) LAMSON 719 resulted in the third confirmed appearance of NVA armor. The first was the attack against Lang Vei

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Special Forces camp in February 1968. The second was against the Ben Het CIDG camp in the spring of 1969. In both cases, tanks were sacrificed to achieve penetration of the perimeter, while infantry assault followed.

(b). An estimate of the enemy's armor organization and capabilities in Laos indicated that one tank regiment consisting of approximately 40 PT-76 tanks, 40 T-34/T-54 tanks, 40 SU-76 assault guns and 40 BTR APC's were deployed to Vinh, NVA, in October 1970. It is probably that this regiment was organized with three tank battalions of 40 tanks each and a mechanized battalion of 40 armored vehicles. The regiment was apparently directly subordinate to the 70B Front and attached to the infantry forces with which it operated.

(c) Unlike his first two armor engagements, the enemy's deployment of armor during LAMSON 719 was more conventional. The attack on FB 31 was probably a classic example of the way the enemy would like to employ his tanks offensively. As supporting fires were shifted onto the firebase, a coordinated tank/infantry assault was launched. This was followed by a second assault until the position was breached. Though the attack was well-executed, the high cost of tanks will likely preclude repeated use of this tactic. The enemy also used his tanks defensively, blocking ARVN advances along canalized routes, and in a fire support role as at the attack on FB 30.

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ANNEX B
DOWNED AIRCRAFT RECOVERY

ANNEX D (Downed Aircraft Recovery) to OPORD 1-71. (U)

Reference: Map RVN, 1:100,000, Series L607, Sheets 6342, 6442, 6341, 6441, 6541, and 6641.

1. This annex provides detailed guidance governing the recovery of downed US Army Aircraft assigned or attached to the 101st Avn Gp (AMBL). The ultimate purpose is to provide for the coordinated and timely recovery of any downed aircraft without interfering with the continuation of combat operations. All airmobile operations will include necessary plans for separate recovery operations should the need arise. Aircraft will not be intentionally destroyed unless that is the only means of preventing compromise or capture and then, only with prior approval of a general officer.
2. Recovery of downed aircraft assumes precedence over all non-tactical missions. Tactical missions are defined as combat assaults, artillery moves, missions resulting from enemy contact, or those necessary to assist seriously wounded or injured personnel. The aviation commander in charge of the recovery operation, in coordination with the appropriate ground commander, will determine the urgency of the extraction based on the tactical situation, vulnerability to hostile fire or attack, and the location of the downed aircraft.
3. Aircraft damaged in an accident not attributed to combat action will not be recovered, have parts removed, displaced, or repairs initiated until a written release by the president of the accident investigation board has been obtained. If an accident occurs in a tactically insecure area and expeditious recovery is required, the damaged aircraft may be evacuated to a selected secure area, but no parts will be removed or repairs initiated until a written release has been obtained.
4. Aviation units and direct support detachments will:
 - a. Recover disabled unit aircraft, within their lift capability.

ANNEX B

b. Establish plans and procedures for the recovery of each type aircraft assigned or attached. Unit recovery plans will include, as a minimum, the following information:

(1) Personnel assignments and duties

(2) Requirements for trained maintenance personnel and riggers for all recoveries

(3) Insure the appropriate recovery equipment listed in Appendix I [omitted] is immediately available.

c. A pilot chute will be used for the recovery of AH-1G and CH-47 aircraft. A pilot chute is not required for recovery of UH-1H and OH-6A aircraft if the tail boom is functional.

d. Insure that type four link assemblies with spools are utilized.

e. Insure that all slings are inspected after each recovery by the user.

f. Request recovery assistance when the load exceeds their capability.

5. The following procedures will be followed:

a. The first unit becoming aware of a downed aircraft will report, with priority precedence, through their higher headquarters to the S-3, 101st Avn Gp. This report should include as a minimum:

(1) Type of aircraft.

(2) Location.

(3) Area (secure or non-secure).

(4) Owning unit.

(5) Condition of aircraft, passengers and crew.

(6) Recovery capability of owning unit (riggers, equipment, etc.).

b. Secured aircraft. The owning unit commander will be responsible for the recovery of his aircraft. He will make the determination when the aircraft will be extracted and to what location. When possible, owning units will provide the recovery team and lift aircraft within its capability. Any required assistance will be coordinated through S-3, 101st Avn Gp.

c. Unsecured aircraft will be recovered by the following procedures:

(1) Upon notification of unsecured downed aircraft the G-3 will designate the recovery commander and based on the current situation provide necessary security elements.

(2) The unit having security responsibility will provide an AMTFC to be collocated with the recovery commander for the purpose of coordinating the recovery operation, suppressive fire, and security force operations. The recovery commander will conduct and control the extraction operation. All communications will be conducted on the security force frequency. Any additional requirements for aviation support will be coordinated through S-3, 101st Avn Gp.

d. Recovery of downed aircraft during conduct of airmobile assaults:

(1) The security and recovery of downed aircraft will be an integral part of all airmobile plans. A recovery commander will be designated by the AMC.

(2) Provisions will be made for multiple recoveries. Aircraft and security personnel will be designated prior to the beginning of the operations.

(3) When a downed aircraft is part of an airmobile force, the mission of the supported unit has priority over rescue and recovery operations.

(4) The air mission commander will provide a maintenance aircraft equipped with sling and rigging equipment for each type aircraft involved in the operation to accompany the airmobile force on all combat assaults. A recovery aircraft will be provided, and will remain on alert status throughout the operation. The air mission commander, in close coordination with the AMTFC, will be responsible for the recovery operations. The AMTFC will provide security and fire support or if this becomes impractical, an ARP may be requested by the AMTFC for security. The AMTFC will designate a 2,000 meter AO around the downed aircraft and the ARP will assume responsibility for the security and extraction operation. All recovery operations will be conducted on the security force net and air to air communications on the recovery force command net.